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SESSIONAL PAPERS

VOLUME 7

HIRD SESSION OF THE SEVENTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1893

VOLUME XXVI.

See also Numerical List, page 3.

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SESSIONAL PAPERS

OF THE

PARLIAMENT OF CANADA

THIRD SESSION, SEVENTH PARLIAMENT, 1893

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Printed for both distribution and sessional papers.

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2. Public Accounts of Canada for the fiscal year ended 30th June, 1892. Presented 27th January, 1893, by Hon. G. E. Foster. 2*a*. Estimates for the year ending 30th June, 1894; presented 30th January, 1893. 2*b*. Supplementary Estimates for the financial year ending 30th June, 1893; presented 17th February, 1893. 2–1*b**. Further Supplementary Estimates for the year ending 30th June, 1893; presented 16th March, 1893. 2*c*. Supplementary Estimates for the year ending 30th June, 1894; presented 27th March, 1893....*Printed for both distribution and sessional papers.*

2*d*. Trade with Great Britain—Horses.....*Printed for both distribution and sessional papers.*

2*e*. Commercial Relations, Canada, No. 1. Reports upon Trade and Trade Openings in Great Britain and other countries, to 31st December, 1892.....*Printed for both distribution and sessional papers.*

3. List of Shareholders in the Chartered Banks of Canada, as on the 31st December, 1892. Presented 24th March, 1893, by Hon. G. E. Foster.....*Printed for both distribution and sessional papers.*

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3*a*. Report of dividends remaining unpaid and amounts, or balances, in respect to which no transactions have taken place, or upon which no interest has been paid for five years or upwards prior to 31st December, 1892, in chartered banks of Canada.....*Printed for both distribution and sessional papers.*

4. Report of the Superintendent of Insurance for the year ending 31st December, 1892.
Printed for both distribution and sessional papers.

4*a*. Preliminary abstract of the business of the Canadian Life Insurance Companies for the year ending 31st December, 1892. Presented 20th February, 1893, by Hon. G. E. Foster.
Printed for both distribution and sessional papers.

4*b*. Abstract of statements of Insurance Companies in Canada for the year ending 31st December, 1892.
Printed for both distribution and sessional papers.

CONTENTS OF VOLUME 4.

5. Tables of the Trade and Navigation of Canada for the fiscal year ended 30th June, 1892. Presented 27th January, 1893, by Mr. Wood (Brockville.). *Printed for both distribution and sessional papers.*

6. Inland Revenues of Canada. Part I., Excise, &c., for the fiscal year ended 30th June, 1892. Presented 26th January, 1893, by Mr. Wood, (Brockville). *Printed for both distribution and sessional papers.*

6*a*. Inland Revenues of Canada. Part II., Inspection of Weights, Measures and Gas, for the fiscal year ended 30th June, 1892 ..... *Printed for both distribution and sessional papers.*

6*b*. Inland Revenues of Canada. Part III., Adulteration of Food, for the fiscal year ended 30th June, 1892. Presented 27th January, 1893, by Mr. Wood (Brockville).
Printed for both distribution and sessional papers.

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7. Report of the Minister of Agriculture for Canada, for the calendar year 1892. Presented 23rd February, 1893, by Hon. G. E. Foster..... ..... *Printed for both distribution and sessional papers.*

7*a*. Report on Canadian Archives, 1892..... ..... *Printed for both distribution and sessional papers.*

7*b*. Report of the Director and Officers of the Experimental Farms, for the year 1892. Presented 20th March, 1893, by Hon. G. E. Foster..... ..... *Printed for both distribution and sessional papers.*

7*c*. Criminal Statistics for the year 1892..... ..... *Printed for both distribution and sessional papers.*

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8. Annual Report of the Minister of Public Works, for the fiscal year ended 30th June, 1892. Presented 20th February, 1893, by Hon. J. A. Ouimet. .. *Printed for both distribution and sessional papers.*

9. Annual Report of the Minister of Railways and Canals, for the past fiscal year, from the 1st July, 1891, to the 30th June, 1892. Presented 10th February, 1893, by Hon. J. G. Haggart.
Printed for both distribution and sessional papers.

9*a*. Canal Statistics for Season of Navigation, 1892. Presented 10th February, 1893, by Hon. J. G. Haggart.
Printed for both distribution and sessional papers.

9*b*. Railway Statistics, and Capital, Traffic and Working Expenditure of the Railways of Canada, for 1892. Presented 29th March, 1893, by Hon. J. G. Haggart.
Printed for both distribution and sessional papers.

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10. Annual Report of the Department of Marine and Fisheries for the fiscal year ended 30th June, 1892. Presented 27th January, 1893, by Hon. J. Costigan.
Printed for both distribution and sessional papers.

10*a*. Fisheries Statements and Inspectors' Reports for the year 1892.
Printed for both distribution and sessional papers.

10*b*. Report on the Oyster Fisheries of Canada, 1892. Presented 30th January, 1893, by Hon. J. Costigan.
Printed for both distribution and sessional papers.

10*c*. Report of British Columbia Fishery Commission, 1892.
Printed for both distribution and sessional papers.

10*d*. Report on the Lobster Industry of Canada, 1892... *Printed for both distribution and sessional papers.*

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11. Report of the Chairman of the Board of Steam-boat Inspection, etc., for calendar year ended 31st December, 1892..... ..... *Printed for both distribution and sessional papers.*

12. Report of the Postmaster-General of Canada for the fiscal year ended 30th June, 1892. Presented 3rd February, 1893, by Sir A. P. Caron... .... *Printed for both distribution and sessional papers.*

13. Annual Report of the Department of the Interior, for the year 1892. Presented 22nd March, 1893, by Hon. T. M. Daly..... ..*Printed for both distribution and sessional papers.*

13*a*. Summary Report of the Geological Survey Department for the year ended 1892.
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14. Annual Report of the Department of Indian Affairs for the year ended 31st December, 1892. Presented 7th March, 1893, by Hon. T. M. Daly....*Printed for both distribution and sessional papers.*

15. Report of the Commissioner of the North-west Mounted Police Force, 1892. Presented 3rd March, 1893, by Hon. W. B. Ives.....*Printed for both distribution and sessional papers.*

16. Report of the Secretary of State of Canada for the year ended 31st December, 1892. Presented 6th March, 1893, by Hon. J. Costigan.....*Printed for both distribution and sessional papers.*

16*a*. Civil Service List of Canada, 1892. Presented 9th February, 1893, by Hon. J. Costigan.
Printed for both distribution and sessional papers.

16*b*. Report of the Board of Civil Service Examiners, for the year ended 31st December, 1892. Presented 29th March, 1893, by Hon. J. C. Patterson.
Printed for both distribution and sessional papers.

16*d*. Annual Report of the Department of Public Printing and Stationery of Canada, for the year ended 30th June, 1892, with a partial report for services during six months ending 31st December, 1892. Presented 28th February, 1893, by Hon. J. Costigan.
Printed for both distribution and sessional papers.

17. Report of the Joint Librarians of Parliament, on the state of the Library of Parliament. Presented 26th January, 1893, by Hon. Mr. Speaker..... *Printed for sessional papers only.*

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18. Report of the Minister of Justice as to Penitentiaries in Canada, for the year ended 30th June, 1892. Presented 27th January, 1893, by Sir John Thompson.
Printed for both distribution and sessional papers.

19. Annual Report of the Department of Militia and Defence of Canada, for the half-year ended 30th June, 1892. Presented 31st January, 1893, by Hon. J. C. Patterson.
Printed for both distribution and sessional papers.

19*a*. Establishment Lists of the Active Militia for the financial year 1893-94. Presented 25th March, 1893. by Hon. J. C. Patterson.....*Printed for both distribution and sessional papers.*

20. Return to an order of the House of Commons, dated 23rd March, 1892, for a return showing the number and names of men and vessel-owners applying for bounties for the years 1889, 1890 and 1891, and not receiving the same, giving the reasons why such applications were not granted ; also whether any were refused and afterwards granted, the names, amounts and reasons given why such were afterwards granted ; also all papers and correspondence since 1888 in reference to the bounty system and in regard to applications granted and ungranted. Presented 27th January, 1893.—*Mr. Bowers*..... *Not printed.*

20*a*. Return to an order of the House of Commons, dated 27th May, 1891, for a return giving a comparative statement for the years 1882 to 1891, inclusive, (by province) of : (*a*) Total number of bounty claims received by department. (*b*) Total number paid. (*c*) Number of vessels, tonnage, and number of men entitled to bounty in each year. (*d*) Number of boats among which bounty was distributed, and number of men engaged in boat-fishing receiving bounty. (*e*) Total number of men receiving bounty. (*f*) Total annual payments of fishing bounty. Presented 30th January, 1893.—*Mr. Flint*..... *Not printed.*

20*b*. Statement in reference to fishing bounty payments for 1891-92, required by chapter 96 of the Revised Statutes of Canada. Presented 6th February, 1893, by Hon. J. Costigan..... *Not printed.*

20*c*. Return to an order of the House of Commons, dated 30th May, 1892, for a copy of all correspondence, papers and reports relating to the investigation into the conduct of William Prosser, fishery overseer for the district fronting the county of Essex, on lake Erie, and his dismissal from office. Presented 8th February, 1893.—*Mr. Allan*..... *Not printed.*

20*d*. Copy of the proceedings of the conference recently held at Halifax between delegates from the governments of Canada and Newfoundland upon the fishery question and other questions between the two governments. Presented 8th February, 1893, by Sir John Thompson.
Printed for sessional papers only.

VOLUME 10—*Continued.*

20*c*. Further papers respecting the enforcement by the Newfoundland authorities against Canadian vessels of the Newfoundland act respecting the sale of bait to foreign fishing vessels. Presented 9th February, 1893, by Hon. J. Costigan,..... *Printed for sessional papers only.*

20*f*. Further papers respecting the several questions at issue between the dominion of Canada and the colony of Newfoundland. Presented 13th March, 1893, by Hon. G. E. Foster.
Printed for sessional papers only.

20*g*. Return to an address of the House of Commons to his excellency the Governor-General, dated 27th July, 1891, for copies of all documents, petitions and letters in relation to the fishing rights of F. F. Rouleau, Esq., advocate, of Rimouski, which said rights he and his predecessors have always exercised on his property at Rimouski. Presented 13th March, 1893.—*Mr. Choquette.*
Not printed.

20*h*. Return to an order of the House of Commons, dated 1st March, 1893, for copies of all correspondence between the government and the Quebec board of trade, respecting the appointment of a fishery officer in the place of Mr. W. H. Whitely, for the Bonne Espérance division, from Checatica to Blancs Sablons. Presented 29th March, 1893.—*Mr. Joncas*..... *Not printed.*

20*i*. Return to an order of the House of Commons, dated 13th Maach, 1893, for a return showing a copy of a certificate of qualification held by each of the commanders of the fishery protection service last season, as follows: Commander O. G. V. Spain, "Acadia;" W. H. Kent, "Agnes Macdonald;" E. Dun, "Bayfield;" Geo. M. May, "Constance;" J. H. Pratt, "Dream;" Wm. Wakeham, "La Canadienne;" A. Finlayson, "Stanley;" C. T. Knowlton, "Vigilant." Presented 29th March, 1893.—*Mr. McMullen*..... *Not printed.*

20*j*. Return to an address of the House of Commons to his excellency the Governor-General, dated 20th March, 1893, for copies of all documents, reports and correspondence between the government and the Quebec Board of Trade, or any other person, in relation to the treatment endured by Canadian fishermen from Newfoundland fishermen along the Canadian Labrador coast. Presented 30th March, 1893.—*Mr. Joncas*..... *Not printed.*

20*k*. Return to an order of the House of Commons, dated 20th March, 1893, for: 1. Copies of instructions issued to the fishery overseers of Berthier, Maskinongé, St. Maurice, Champlain, Nicolet, Yamaska and Richelieu, since 1st January, 1892, and of all correspondence on the subject between the Government and the said fishery overseers; or between the government and any other persons from 1st January, 1892, up to this date, in relation to such instructions and the enforcement thereof. 2. A statement of fishing licenses issued in the counties aforesaid during the years 1891 and 1892, separately. 3. A statement of the quantity and value of the various kinds of fish taken in the said counties—separately—during the years 1891 and 1892. Presented 30th March, 1893.—*Mr. Bruneau*..... *Not printed.*

20*l*. Return to an order of the House of Commons, dated 20th February, 1893, for a return of all persons receiving fishery bounties in the counties of Victoria and Guysboro', N.S., for the year 1892, with amount paid each. Presented 30th March, 1893.—*Mr. Fraser*..... *Not printed.*

21. Return to an order of the House of Commons, dated 2nd May, 1892, for a return giving all papers, letters, petitions, applications, and every other document relating to the dismissal of the postmaster of McIntyre, and the appointment of his successor. Presented 27th January, 1893.—*Mr. Landerkin*..... *Not printed.*

21*a*. Return to an order of the House of Commons, dated 20th February, 1893, for copies of all letters, correspondence, petitions and other documents received and exchanged by the government, respecting the dismissal of Edouard Lesage, postmaster of St. Léon, in the county of Maskinongé, and to any appointment or appointments made to the position since the discharge of the said official. Presented 16th March, 1893.—*Mr. Legris*..... *Not printed.*

21*b*. Return to an address of the Senate, to his excellency the Governor-General, dated the 7th March, 1893, for copies of the order in council, information, evidence and papers upon which the dismissal of John J. Cosgrove, an officer of the inland revenue department, proceeded and was determined. Presented 23rd March, 1893.—*Hon. Mr. O'Donohue*..... *Not printed.*

22. Statement of Governor-General's Warrants issued since last session of parliament, in accordance with the Consolidated Revenue and Audit Act, section 32, subsection *b*. Presented 30th January, 1893, by Hon. G. E. Foster..... *Printed for distribution only.*

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23. Statement of expenditure on account of miscellaneous unforeseen expenses. Presented 30th January, 1893, by Hon. G. E. Foster..... *Not printed.*

24. Ten days' statement of the receipts and payments of Canada, from the 11th to the 20th January, 1892, and from the 11th to the 20th January, 1893. Presented 30th January, 1893, by Hon. G. E. Foster..... *Not printed.*

24*a*. Statement of the receipts and payments of Canada, 1891-92 and 1892-93, to 31st January. Presented 6th February, 1893, by Hon. G. E. Foster..... *Not printed.*

24*b*. Statement of the receipts and payments of Canada, 1891-92 and 1892-93, to 10th February. Presented 17th February, 1893, by Hon. G. E. Foster..... *Not printed.*

24*c*. Statement of the receipts and payments of Canada, 1891-92 and 1892-93, to 10th March. Presented 15th March, 1893, by Hon. G. E. Foster..... *Not printed.*

24*d*. Statement of the receipts and payments of Canada, 1891-92 and 1892-93, to 20th March. Presented 21st March, 1893, by Hon. G. E. Foster..... *Not printed.*

25. Rules of the Exchequer Court of Canada in respect to any proceeding that may be had or taken in the Exchequer Court of Canada to impeach any patent issued under "The Patent Act." Presented 27th January, 1893, by Hon. J. Costigan..... *Printed for sessional papers only.*

26. Return to an address of the Senate to his excellency the Governor-General, dated 9th July, 1892, for a copy of the latest time-table adopted to govern the running of passenger trains on the Intercolonial Railway. Presented 30th January, 1893.—*Hon. Mr. Power*..... *Not printed.*

26*a*. Return to an order of the House of Commons, dated 6th February, 1893, for a statement of the working expenses of the Intercolonial Railway for the year 1890-91 and also for the year 1891-92, and from the 1st July, 1892, to the 31st December, inclusive, under the following headings, viz. :—Locomotive power, car expenses, maintenance of way and works, station expenses, general charges, car mileage. Presented 27th February, 1893.—*Sir Hector Langevin.*

Printed for distribution only.

26*b*. Return to an order of the House of Commons, dated 6th February, 1893, for a statement showing the revenue of the Intercolonial Railway for the years 1890-91 and 1891-92, and from the 1st July, 1892, to the 31st December, inclusive, under the following headings, viz. :—Passengers, freight, mails and sundries ; giving also the number of passengers and the number of tons of freight carried in each of the above-named years. Presented 27th February, 1893.—*Sir Hector Langevin.*

Printed for distribution only.

26*c*. Return to an order of the House of Commons, dated 13th March, 1893, for copies of all correspondence, reports and other documents relative to the reduction in rank of C. A. Atkinson from conductor to brakesman, on or about October, 1887. Presented 30th March, 1893.—*Mr. Wood (Westmoreland)*..... *Not printed.*

26*d*. Return to an order of the House of Commons, dated 28th March, 1892, for copies of all letters, telegrams and correspondence relating to the use by the Canadian Pacific Railway of running privileges over the Intercolonial Railway between Halifax and St. John ; and copies of all agreements between the Canadian Pacific Railway and the Intercolonial Railway, or any department or officer of the government of Canada, relating to the running privileges given to the Canadian Pacific Railway over the Intercolonial Railway and to the payments to be made therefor ; and also of all agreements for the payments by the Intercolonial Railway to the Canadian Pacific Railway for the cars and engines of the latter run over the Intercolonial Railway. Presented 1st April, 1893.—*Mr. Davies*..... *Not printed.*

27. Copy of the Report of the Commissioners appointed by Royal Commission to take evidence as to the truth or falsity of certain charges made against Sir Adolphe P. Caron, member of the House of Commons and of the Queen's Privy Council for Canada, with copies of the evidence and exhibits thereto pertaining. Presented 6th February, 1893, by Sir John Thompson.

Printed for both distribution and sessional papers.

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28. Statement of all superannuations and retiring allowances in the civil service, giving the name and rank of each person superannuated or retired, his salary, age and length of service; his allowance and cause of retirement, whether vacancy has been filled by promotion or new appointment, etc., for year ended 31st December, 1892. Presented 7th February, 1893, by Hon. G. E. Foster.
Printed for sessional papers only.

28*a*. Return to an address of the House of Commons to his excellency the Governor-General, dated 1st March, 1893, for copies of all correspondence, papers or orders in council relating to the superannuation or retirement of Mr. T. Trudeau, late deputy of the minister of railways and canals. Presented 21st March, 1893.—*Mr. Edgar*.... .. ..*Not printed.*

29. Return of orders in council of 1892 relating to the department of the interior, in accordance with clause 91 of the Dominion Lands Act, chapter 54, Revised Statutes of Canada. Presented 9th February, 1893, by Hon. T. M. Daly..... .....*Printed for sessional papers only.*

30. Return under resolution of the 20th February, 1882, in so far as the same is furnished by the department of the interior, respecting the Canadian Pacific Railway Company. Presented 9th February, 1893, by Hon. T. M. Daly..... .....*Printed for sessional papers only.*

30*a*. List of all lands sold by the Canadian Pacific Railway Company from the 1st October, 1891, to the 1st October last. Presented 9th February, 1893, by Hon. T. M. Daly.
Printed for sessional papers only.

31. List of public officers to whom commissions have issued under chapter 19 of the Revised Statutes of Canada, during the past year, 1892. Presented 9th February, 1893, by Hon. J. Costigan.
Printed in No. 16.

32. Return to an address of the House of Commons to his excellency the Governor-General, dated 17th March, 1892, for copy of all correspondence between the imperial government and the Canadian government concerning the defences of Esquimalt. Presented 10th February, 1893.—*Mr. Laurier.*
Printed for sessional papers only.

33. Return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for copy of all petitions, memorials, appeals, and of any other documents addressed to his excellency in council, since the 15th March, 1892, relating to the Manitoba School Acts of 1890 and to section 22 of the "Manitoba Act" and section 93 of the "British North America Act." Also copy of all reports to and of all orders in council in reference to the same. Also copies of all correspondence in connection therewith. Presented 10th February, 1893.—*Mr. LaRivière.*
Printed for both distribution and sessional papers.

33*a*. Return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for a copy of the judgment of the judicial committee of her majesty's privy council in the appealed case of Barrett *vs.* the City of Winnipeg, commonly known as the "Manitoba School Case." Also copy of factums, reports and other documents in connection therewith. Presented 14th February, 1893.—*Mr. LaRivière*.....*Printed for both distribution and sessional papers.*

33*b*. Further return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for a copy of the judgment of the judicial committee of her majesty's privy council in the appealed case of Barrett *vs.* the City of Winnipeg, commonly known as the "Manitoba School Case." Also copy of factums, reports and other documents in connection therewith. Presented 20th February, 1893.—*Mr. LaRivière.*
Printed for both distribution and sessional papers.

33*c*. Supplementary return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, on the subject of the Manitoba School Acts of 1890, with a certified copy of a report of a committee of the honourable the privy council, approved by his excellency the Governor-General in council on 22nd February, 1893, relative to the settlement of important questions of law concerning certain statutes of the province of Manitoba relating to education. Presented 1st March, 1893.—*Mr. LaRivière*.....*Printed for both distribution and sessional papers.*

33*d*. Partial return to an address of the Senate to his excellency the Governor-General, dated 3rd February, 1893, for: 1. A copy of the deliberations, resolutions and ordinances of the former council of Assiniboia, relating to educational matters within its jurisdiction as it existed on the banks of

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the Red River before the creation of the province of Manitoba. 2. A statement of the amounts paid by the said council of Assiniboia for the maintenance of schools, showing the persons to whom such payments were made, the schools for which such amounts were paid, and the religious denomination to which such schools belonged. 3. A statement of the amounts paid by the Hudson's Bay Company or by its agents, to the schools then existing in the territories forming to-day the province of Manitoba. 4. A copy of all memoranda and instructions serving as basis for the negotiations as a result of which Manitoba became one of the provinces of the confederation; together with a copy of the minutes of the deliberations of the persons charged, on both parts, to settle the conditions of the creation of the province of Manitoba and of its entrance into the confederation; and also a copy of all memoranda, returns and orders in council, establishing such conditions of entrance, or serving as a basis for the preparation of "The Manitoba Act." 5. A copy of the despatches and instructions from the imperial government to the government of Canada on the subject of the entrance of the province of Manitoba into the confederation, comprising therein the recommendations of the imperial government concerning the rights and privileges of the population of the territories, and the guarantees of protection to be accorded to the acquired rights, to the property, to the customs and to the institutions of that population by the government of Canada, in the settlement of the difficulties which marked that period of the history of the Canadian west. 6. A copy of the acts passed by the legislature of Manitoba relating to education in that province, and especially of the first act passed on this subject after the entrance of the said province of Manitoba into the confederation, and of the laws existing upon the same subject in the said province immediately before the passing of the acts of 1890, relating to the public schools and relating to the department of education. 7. A copy of all regulations with respect to schools passed by the government of Manitoba or by the advisory board in virtue of the laws passed in 1890, by the legislature of Manitoba, relating to public schools and the department of education. 8. A copy of all correspondence, petitions, memoranda, resolutions, briefs, factums, judgments (as well of first instance as in all stages of appeal), relating to the school laws of the said province of Manitoba, since the 1st June, 1890, or to the claims of catholics on this subject; and also a copy of all reports to the privy council and of all orders in council relating to the same subject since the same date. Presented 30th March, 1893.—*Hon. Mr. Bernier.*

Printed for both distribution and sessional papers.

34. Return to an order of the House of Commons, dated 13th April, 1892, for copies of the instructions issued to Prof. Saunders when he was directed to inquire into the question of the growing of sugar-beet and the manufacture of beet-root sugar in Canada, or since that date up to the time when his report was laid before this House. Presented 10th February, 1893—*Mr. Beausoleil.*

Not printed.

35. Return to an Address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for all correspondence, documents, reports and orders in council about a special commission to inquire into the most feasible means of completing the telegraphic system of the empire. Presented 10th February, 1893—*Sir H. Langevin*.....*Printed for sessional papers only.*

36. Detailed statement of all bonds and securities registered in the department of the secretary of state of Canada, since last return, 1892, submitted to the parliament of Canada under section 23, chapter 19, of the Revised Statutes of Canada. Presented 13th February, 1893, by Hon. J. Costigan.

Not printed

37. Statement showing quantity and bounty paid on pig iron produced in Canada since date of last return to House of Commons, 16th March, 1892. Presented 16th February, 1893, by Mr. Wallace.

Printed for sessional papers only.

37*a*. Return to an order of the House of Commons, dated 20th February, 1893, for return showing the quantity of pig iron produced in Canada in the years 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879 and 1880, and bounty paid, if any, during those years; also amount of pig iron imported from Great Britain and the United States respectively, and the total amount imported during those years. Presented 28th February, 1893.—*Mr. Macdonald (Huron).*

Printed for sessional papers only.

37*b*. Return to an order of the House of Commons, dated 6th February, 1893, for a return showing the quantity of pig iron produced in Canada in the years 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892; and the bounty paid for the production in each of those years. Presented 13th March, 1893.—*Mr. McMullen*.....*Printed for sessional papers only.*

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38. Return to an order of the House of Commons, dated 20th February, 1893, for the evidence taken before Mr. James G. Moylan, inspector of penitentiaries, in connection with the investigation or investigations held by that official at Kingston penitentiary during the past year which resulted in the dismissal or resignation of certain officials of that institution. Presented 22nd February, 1893. —*Mr. Somerville*.....*Not printed.*

39. Return to an order of the House of Commons, dated 20th February, 1893, for a copy of the questions put and the subjects submitted to the parties who presented themselves for preliminary or qualifying examination, or both, at the last examination for the civil service. Presented 23rd February, 1893.—*Sir Hector Langevin*.....*Not printed.*

40. Return to an order of the House of Commons, dated 20th February, 1893, for a return showing the number of Experimental Farm Reports published for the year 1891; the number published in English and French respectively; the number allotted to each member of the House of Commons and Senate, and the number still on hand. Presented 24th February, 1893.—*Mr. Grieve.*
Not printed.

41. Return to an address of the House of Commons to his excellency the Governor-General, dated 20th February, 1893, for a copy of any report to council made by Hon. J. A. Chapleau when minister of customs, on the reorganization of the customs department or recommending changes regarding that department. Presented 24th February, 1893.—*Mr. Landerkin*.....*Not printed.*

42. Return to an order of the House of Commons, dated 6th February, 1893, for a list of the names of all tenderers for section eight of the Soulanges canal, also of the residence of each such tenderers, and of the amount of each tender. Presented 27th February, 1893.—*Sir Hector Langevin*.*Not printed.*

43. Return to an address of the House of Commons to his excellency the Governor-General, dated 2nd February, 1893, for copies of all correspondence, memorials, departmental orders and orders in council, not already laid before the House, respecting the north-western, northern and eastern boundaries of the province of Quebec, together with all reports of surveys or explorations ordered thereon or in connection therewith, by the government of Canada, since last session of parliament, including the instructions for said surveys or explorations. Presented 27th February, 1893.—*Sir Hector Langevin*.....*Printed for sessional papers only.*

44. Return to an address of the House of Commons to his excellency the Governor General, dated 6th February, 1893, for a copy of any order in council or other document which gave power to the "Stanstead, Shefford and Chambly Railway Co." or their successors "The Vermont Central Railway Company" to build a bridge across the Richelieu river at St. John's, P.Q. Presented 28th February, 1893.—*Mr. Béchard*.....*Not printed.*

45. Return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for copies of all petitions, correspondence and documents whatsoever respecting the granting of a subsidy to the Quebec Oriental Railway. Presented 28th February, 1893.—*Mr. Vaillancourt*.....*Not printed.*

46. Return to an order of the House of Commons, dated 1st March, 1893, for copies of instructions to officers employed in the taking of the third census of Canada, 1891, and copies of forms used. Presented 1st March, 1893, by Hon. G. E. Foster.....*Not printed.*

46*a*. Return to an address of the Senate to his excellency the Governor-General, dated 6th February, 1893, for information, accompanied with full explanatory remarks, from the officer in charge of the direction and superintendence of the last Canadian Census of 1891, on the following points: 1. Was the enumeration of the French element of the population, in the taking of the Census of 1891, intended and carried on to convey the same information as was furnished by the previous Census of 1851 and 1861 of the former province of Canada, and the Canadian Census of 1871 and 1881? 2. What was the meaning intended and the interpretation given, in the taking of the Census of 1891, to the words *French-Canadian* and *Canadian-French* as heading of one of the columns of Census Schedule No. 1? 3. What is the precise meaning and what is to be understood by the various words made use of in the Census Bulletin No. 11, signed George Johnson, statistician, namely, the words *Nationalities*, *Nationalités*, French-speaking, English-speaking, Canadiens-Anglais, as part of the new nomenclature adopted? 4. Were there people of French nationality, real Frenchmen, excluded from the registration of the French element of the population on account of being born outside of Canada, and were there French people included among the English-

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speaking on account of being able to speak the English language? Is there any connection between such cases and the nomenclature of Bulletin No. 11, and if not, why is it that the simple word French, formerly used as meaning the French element, was abandoned, to be variously replaced by the words French-speaking, French-Canadians, and so forth? 5. What were, in addition to the printed instructions, the practical explanations and directions given to the officers, commissioners and enumerators, as regards the registration of the French element of the population, or persons of French origin or nationality? 6. Was the actual enumeration of the French, in 1891, uniformally carried on throughout, in the various Census districts, subdistricts and divisions? 7. Are there reasons to apprehend, from direct investigation, personal knowledge, or statistical criticism, that the figures given as representing the number of French people, are notably deficient in some or many returns of the enumeration of 1891? 8. Were the returns delivered by the enumerators examined by the commissioners, the officers, and at the central office under the supervision, the responsibility of the superintendent, in view to test their accuracy and to correct apparent errors? 9. Was it noticed by some of the officers or the superintendent, that very serious discrepancies existed in the return of the French between the Census of 1891 and the statistical series of previous censuses, and was thereby trouble taken to investigate the serious question raised by the very striking want of concordance? 10. Is there any rational explanation of the returns of 1891 by which the French appear to have met abnormous losses in their number, especially in Nova Scotia, Ontario and the Territories? 11. Are there local or accidental causes capable of explaining the vast differences in the multiplication of the French which would have taken place, if the figures of the Census of 1891 were correct, between Prince Edward Island, New Brunswick and Nova Scotia, for instance? 12. Was there, at any time, steps taken to ascertain the cause and extent of such extraordinary returns; if not, what was the cause of that omission; if so, what were the proceedings adopted, and what the results? 13. Has the superintendent of the Census of 1891 taken notice of the very determined objection to accept the extraordinary figures of 1891, as representing the actual number of the French in Canada, and has any serious investigation of this important question been undertaken by him; if so, what are the conclusions arrived at, including the statistical criticism involved? 14. And that the said information include all instructions given to the enumerators in the several years, 1881 and 1891, be brought down with the return. Presented 30th March, 1893.—*Hon. Mr. Tassé.* ..... *Not printed.*

47. Return to an address of the House of Commons to his excellency the Governor-General, dated 20th February, 1893, for a copy of the report of the Honourable Mr. Justice Wetmore, appointed by royal commission to inquire into certain charges against Lawrence Herchmer, commissioner of the North-west Mounted Police. Presented 3rd March, 1893.—*Mr. Davin.* ..... *Not printed.*

48. Return to an address of the House of Commons to his excellency the Governor-General, dated 20th February, 1893, for a return of all correspondence, telegrams, reports and other papers relating to the suspension of Mr. Edward Hackett, Inspector of Fisheries, Prince Edward Island, in the year 1892; together with copies of the charges made against Mr. Hackett, the authority given to the commissioner in Prince Edward Island to take evidence on such charges, together with the evidence taken, and the report of the minister of marine thereon, together with any letters, correspondence, orders or reports relating to the reinstatement of Mr. Hackett. Presented 6th March, 1893.—*Mr. Davies* ..... *Not printed.*

49. Return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for a statement showing total amount of money paid by years since confederation on each of the following accounts: (*a*) Salary of Governor-General. (*b*) Travelling expenses of Governor-General. (*c*) Expenditure on Rideau Hall on capital account and maintenance; expenditure on Rideau Hall grounds on capital account and maintenance. (*d*) Expenditure on furnishings of all kinds for Rideau Hall. (*e*) Allowance to Governor-General for coal and light. (*f*) Expenditure on any other account in connection with the office of Governor-General. (*g*) Expenditure on any other account in connection with Rideau Hall and grounds. (*h*) Total expenditure of every kind since confederation in connection with the office of Governor-General. (*i*) Total expenditure of every kind in connection with Rideau Hall and grounds. Presented 6th March, 1893.—*Mr. Mulock.* ..... *Printed for sessional papers only.*

50. Return to an address of the House of Commons to his excellency the Governor-General, dated 6th February, 1893, for a return of all letters, correspondence, reports and all other matter on record, passed between the department of agriculture and the high commissioner of Canada in London,

VOLUME 11—*Continued.*

the imperial board of trade or any other officials of an authoritative body in reference to the scheduling of Canadian cattle in the ports of Great Britain and Ireland, on and after 20th October, last. Presented 6th March, 1893.—*Mr. Sproule*.....*Printed for sessional papers only.*

51. Agreement entered into between Her Majesty the Queen of the United Kingdom of Great Britain and Ireland and the President of the French Republic, regulating the commercial relations between Canada and France in respect of customs tariffs. Presented 6th March, 1893, by Hon. G. E. Foster. .... *Printed for both distribution and sessional papers.*

51*a*. Return to an address of the House of Commons to his excellency the Governor-General, for copies of correspondence and other papers in relation to an agreement entered into between Her Majesty the Queen of the United Kindom of Great Britain and Ireland and the President of the French Republic, regulating the commercial relations between Canada and France in respect of customs tariffs. Presented 15th March, 1893, by Hon. G. E. Foster.

Printed for both distribution and sessional papers.

51*b*. Supplementary return to an address of the House of Commons to his excellency the Governor-General, dated 15th March, 1893, for copies of correspondence and other papers in relation to an agreement entered into between Her Majesty the Queen of the United Kingdom of Great Britain and Ireland and the President of the French Republic, regulating the commercial relations between Canada and France in respect of customs tariffs. Presented 20th March, 1893, by Hon. G. E. Foster..... .... *Printed for both distribution and sessional papers.*

51*c*. Further supplementary return to an address of the House of Commons to his excellency the Governor-General, dated 15th March, 1893, for copies of correspondence and other papers in relation to an agreement entered into between Her Majesty the Queen of the United Kingdom of Great Britain and Ireland and the President of the French Republic, regulating the commercial relations between Canada and France in respect of customs tariffs. Presented 25th March, 1893, by Hon. G. E. Foster..... ....*Printed for both distribution and sessional papers.*

52. Papers relating to the conference held at Washington in February, 1892, between the delegates of the Canadian government and the secretary of state of the United States upon the several subjects therein mentioned. Presented 7th March, 1893, by Hon. G. E. Foster.

Printed for sessional papers only.

53. Return to an address of the House of Commons to his excellency the Governor-General, dated 1st March, 1893, for copies of all letters, telegrams and correspondence between the government or any member thereof, and the late English financial agents of Canada in London and the Bank of Montreal in reference to the recent change of agency at London. Presented 7th March, 1893.—*Sir Richard Cartwright*..... .... *Not printed.*

54. Copy of an order in council of the 17th January, 1893, authorizing the issue of licenses to United States fishing vessels during the year 1893, for the purchase of bait, ice, lines and all other supplies, the transhipment of catch and shipping of crews. Presented 7th March, 1893, by Hon. J. Costigan..... ....*Not printed.*

55. Statement of the affairs of the British Canadian Loan and Investment Company, on 31st December, 1892. Also a list of shareholders on the 31st December, 1892. Presented 30th March, 1893, by Hon. Mr. Speaker ... .*Not printed.*

56. Return to an address of the Senate to his excellency the Governor-General, dated 21st February, 1893, for copies of all letters, communications and telegrams between the minister of agriculture or any official under him, or any other minister or official of the Dominion government and the Canadian Pacific Railway Company, the British Columbia government, the mayors of the cities of Victoria and Vancouver, the Dominion health officers of the ports of Victoria and Vancouver, relating to the introduction of small-pox into Victoria and Vancouver, in May and June, 1892, by the mail steamers from Japan and China. Presented 9th March, 1893.—*Hon. Mr. McInnes (Victoria).*

Not printed.

57. Return of applications for registration under the provisions of chapter 131, Revised Statutes of Canada, "An Act respecting Trades Unions." Presented 15th March, 1893, by Hon. J. Costigan... ....*Not printed.*

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58. Return to an order of the House of Commons, dated 15th March, 1893, for a statement showing in detail the expenditure incurred since last session of parliament, in carrying on the borings in the Straits of Northumberland to obtain data as to the probable cost of a tunnel, also for all contracts, correspondence, telegrams or papers in anywise relating to such borings or such expenditure. Presented 15th March, 1893.—*Mr. Perry* ..... *Not printed.*

59. Return to an order of the House of Commons, dated 20th February, 1893, for copies of all petitions, letters and documents whatsoever, in relation to the change in the location of the post office of Notre Dame du Rosaire. Presented 20th March, 1893.—*Mr. Choquette* ..... *Not printed.*

59*a*. Return to an order of the House of Commons, dated 6th February, 1893, for a return of all petitions, documents and letters in relation to a request made for increased mail service at the Harkaway post office, during the past six years. Presented 29th March, 1893.—*Mr. Landerkin* ..... *Not printed.*

59*b*. Return to an order of the House of Commons, dated 1st March, 1893, for copies of all correspondence and petitions asking for a change in the post office of St. Sébastien, in the county of Beauce; and of the report of the post office inspector in relation thereto. Presented 29th March, 1893.—*Mr. Godbout* ..... *Not printed.*

60. Return to an order of the House of Commons, dated 1st March, 1893, for copies of all accounts, letters, receipts and other documents in relation to the claim of Charles I. Labrie, of Lévis, for professional service in connection with expropriation, during the construction of the St. Charles Branch. Presented 20th March, 1893.—*Mr. Frémont* ..... *Not printed.*

61. Return to an order of the House of Commons, dated 1st March, 1893, for copies of petitions from county councils and other municipal corporations asking that railways under Dominion control be compelled to build culverts on natural watercourses crossing their lines, and correspondence relating thereto. Presented 21st March, 1893.—*Mr. Casey* ..... *Not printed.*

62. Return to an address of the House of Commons to his excellency the Governor-General, dated 1st March, 1893, for copies of all communications, memorials, etc., addressed to his excellency in council, to the Dominion government or any member thereof, since 1888, urging the granting of a federal subsidy to the Central Ontario Railway Company, to enable that company to extend its line from Coehill northward. Presented 21st March, 1893.—*Mr. Corby* ..... *Not printed.*

63. Return to an address of the House of Commons to his excellency the Governor-General, dated 1st March, 1893, for all correspondence, petitions and papers that are in the possession of the government relating to the disallowance of chapter 1 of the Acts of Nova Scotia, dated 1892: "An act to amend and consolidate the Acts relating to Mines and Minerals," including any petition of David McKeen, Esq., M.P., and others, in respect of the said act. Presented 21st March, 1893.—*Mr. Weldon* ..... *Printed for sessional papers only.*

64. Return to an order of the House of Commons, dated 6th February, 1893, for a return, in the form used in the statements usually published in the *Gazette*, of the exports and imports from the first day of July, 1892, to the first day of January, 1893, distinguishing the products of Canada and those of other countries; and comparative statements from the first day of July, 1891, to the first day of January, 1892. Presented 21st March, 1893.—*Sir R. Cartwright* ..... *Not printed.*

65. Return to an order of the House of Commons, dated 20th February, 1893, for all papers, documents, correspondence, etc., addressed to the government in relation to the best means to be adopted to prevent the spreading of cholera. Presented 23rd March, 1893.—*Mr. Landerkin* ..... *Not printed.*

66. Return to an order of the House of Commons, dated 15th March, 1893, for copies of all correspondence between the minister of justice and the Hon. J. G. Bossé, judge of the court of Queen's Bench, in relation to the trial and condemnation of R. H. McGreevy and O. E. Murphy, charged with a conspiracy to defraud; of all recommendations and of all reports made by the said Hon. J. G. Bossé in relation to the conviction of the said Murphy and McGreevy and to a commutation of the sentence of R. H. McGreevy; of the order for the commutation of the sentence of R. H. McGreevy, and of any petitions, letters, etc., in relation thereto. Presented 24th March, 1893.—*Mr. Tarte* ..... *Not printed.*

VOLUME 11—*Continued.*

67. Return to an address of the Senate to his excellency the Governor-General, dated 23rd February, 1893, for: 1. A copy of the commission issued appointing and constituting certain persons a royal commission to obtain reliable data respecting the operation and effects of legislative prohibition of the traffic in intoxicating liquors. 2. Also a copy of any and all instructions given for the guidance of the said royal commission by or under the authority of the government. 3. Also copies of any and all documents and statistics furnished to the said royal commission, by any of the departments of the civil service, or any officer of the government, embodying information or suggestions in relation to the subjects which the said royal commission was appointed to examine and report upon. Presented 15th March, 1893.—*Hon. Mr. Vidal*.. .. . .*Not printed.*

68. Return to an address of the Senate to his excellency the Governor-General, dated 7th February, 1893, for copies of all letters, communications and telegrams between the minister of agriculture, or any official under him, or any other minister or official of the Dominion government, and the government of British Columbia or any official thereof, the British Columbia board of trade, and the local Dominion engineer, relating to the erection of a proper quarantine station at Albert Head or William Head, British Columbia. Presented 15th March, 1893.—*Hon. Mr. McInnes (Victoria).*
Not printed.

69. Return to an address of the Senate to his excellency the Governor-General, dated 7th March, 1893, for a copy of the royal instructions from her most gracious majesty the Queen to his excellency, on his appointment to his present office. Presented 20th March, 1893.—*Hon. Mr. Wark.*
Printed for sessional papers only.

70. Return to an order of the House of Commons, dated 6th February, 1893, for copies of all correspondence between Mr. Robertson, dairy commissioner for Canada, and the department of agriculture, in relation to a certain resolution adopted by a committee of the board of trade of Bristol, England, against accepting as Canadian chesse, cheese designated by the said committee under the name of "French Cheese" and manufactured in the province of Quebec. Copies of all speeches, letters and reports made by the said dairy commissioner, Mr. Robertson, on the value of cheese manufactured in the provinces of Quebec and Ontario. Presented 25th March, 1893.—*Mr. Rinfret.*
Not printed.

71. Return to an address of the House of Commons to his excellency the Governor-General, dated 20th February, 1893, for copy of the claims made by Messrs. F. B. McNamee & Co., contractors, in connection with the recommendations made by a select committee of the House of Commons, June, 1887, with all reports, orders in council and other papers relating thereto. Presented 28th March, 1893.—*Sir Hector Langevin*..... *Not printed.*

72. Return to an order of the House of Commons, dated 20th February, 1893, for copies of all correspondence and reports accumulated between the years 1876 and 1893 in the hands of the government relating to the Lurcher Shoal, near the entrance to the Bay of Fundy, and proposed means for the protection of navigation in that vicinity. Presented 29th March, 1893.—*Mr. Bowers.*
Not printed.

73. Return to an order of the House of Commons, dated 13th March, 1893, for copies of all correspondence relating to the claim of Mr. Lauchlin McDougall, of Victoria County, Nova Scotia, for superannuation allowance, together with the amounts paid him as lighthouse-keeper in St. Paul's and Ingonish, giving the separate amounts for each year. Presented 29th March, 1893.—*Mr. Fraser*... .. . .*Not printed.*

74. Return to an address of the House of Commons to his excellency the Governor-General, dated 13th March, 1893, for copies of all tenders, letters, telegrams and correspondence between the government and their agents and any other persons, in regard to the contract let for the repairing of the Dominion steamer "Quadra." Presented 30th March, 1893.—*Mr. Prior*.... .....*Not printed.*

75. General statements and returns of baptisms, marriages and burials in the districts of Chicoutimi, Gaspé, Joliette, Iberville, Montmagny, Ottawa and Saguenay, for the year 1892. Presented 30th March, 1893, by Hon. Mr. Speaker..... .....*Not printed.*

76. Return to an address of the Senate to his excellency the Governor-General, dated 14th March, 1893, for a statement and account showing the amount said to have been improperly retained by William Ellis, superintendent of the Welland canal, and subsequently refunded by him, and not included in a return laid before the Senate, in answer to an address of the Senate of the 18th June, 1891. Presented 28th March, 1893.—*Hon. Mr. McCallum*..... .....*Not printed.*

VOLUME 11—*Concluded.*

77. Return to an address of the Senate to his excellency the Governor-General, dated 28th February, 1893, for a list giving the names of all persons employed permanently or temporarily at the custom-house at Montreal, on the first day of January, 1868; also a similar list of those so employed on the first of January, ultimo, with, in both cases, their ages, nationality, religion, salary, occupation and date of appointment. Presented 30th March, 1893.—*Hon. Mr. Bellerose*..... .. *Not printed.*

TWENTY-FIFTH ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

FOR THE

FISCAL YEAR ENDED 30TH JUNE

1892

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY
1893

[No. 10—1892.] *Price* 25 *cents.*

To His Excellency the Right Honourable Lord Stanley of Preston, Governor-General of Canada, &c., &c.

MAY IT PLEASE YOUR EXCELLENCY:

I have the honour to submit herewith, for the information of Your Excellency and the Legislature of Canada, the Twenty-fifth Annual Report of the Department of Marine and Fisheries.

I have the honour to be

Your Excellency's most obedient servant,

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 1st November, 1892.

PART I

MARINE

ADDENDUM.

On page 42, part I. Marine, the following figures should appear opposite 91–92 in the statement "Cost of Maintaining Lighthouses and Dominion Steamers":—

No. of lighthouses	741
do fog-whistles	23
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REPORT

OF THE

DEPUTY MINISTER.

To the Honourable
CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—I have the honour to report on the transactions of the Marine Branch of this department for the fiscal year ended the 30th June last, and to give an account of a considerable portion of the business up to date.

A supplement to this report will be issued, comprising returns from the Chairman of the Boards of Steamboat Inspection and Examiners of Masters and Mates; the reports of the Toronto, Belleville, Montreal, Quebec, Three Rivers, Pictou and North Sydney Harbour Commissioners, the Pilotage Authorities, the Harbour Masters, the Port Wardens and the Harbour Police of Quebec, together with Statements of wrecks and casualties.

The total amount expended on the various branches of the Public Service administered by this department, including the salaries of the Established Staff during the fiscal year ended 30th June last was $861,433.96, being a decrease of expenditure from that of the previous year of $12,698.80.

The total amount voted by Parliament was $890,951.30, which amount includes the Departmental salaries. It will be seen that during the last fiscal year the expenditure was $29,517.34 less than the amount appropriated by Parliament.

The whole number of persons engaged in the outside service of the Branch at the date of this report is 1,439.

During the past fiscal year, the expenditure for maintenance of Lighthouse and Coast Service amounted to $450,154.58, and for construction of Lights, $35,804.20; total for maintenance and construction, $485,988.78, while for the previous year, the expenditure for Lighthouse and Coast Service, including construction, was $492,196,99, showing a decrease of expenditure for the year ending 30th June, 1892, of $6,238.21. The appropriation for this service was $500,583.80. It will thus be seen that the expenditure was $14,625.02 less than the appropriation of Parliament for the past fiscal year.

LIGHTHOUSE SERVICE.

The lighthouse service of the Dominion is divided as follows:—The Ontario division, embracing all lights from Montreal westward to the North-west Territories; the Quebec division, extending below Montreal, and including the River and Gulf of St. Lawrence and the Strait of Belle Isle; the Nova Scotia division,

including St. Paul Island, Cape Breton, Sable Island and Cape Race, Newfoundland; the New Brunswick division, the Prince Edward Island division, and the British Columbia division, each including the lights within the Provincial boundaries. The total number of light stations, light-ships and fog-alarm stations in the Dominion on the 30th June, 1892, was 611, and of lights shown, 730; the number of steam whistles and fog-horns, 56; the number of light-keepers and engineers of fog-alarms with masters of lightships was 624.

The following is the number of lights shown, of fog-whistles and fog-horns in the Dominion on the 31st of December of each year, from 1868 to date, inclusive.

These numbers include the light stations on the coast of Newfoundland, maintained by the Dominion.

	Light Stations.	Light-houses.	Fog-whistles.	Fog-horns.
31st December, 1868	198	227	2	....
do 1869	219	233	2	....
do 1870	240	278	4	....
do 1871	264	297	8	....
do 1872	280	314	13	...
do 1873	316	363	17	....
do 1874	342	384	18	....
do 1875	377	444	22	....
do 1876	407	488	24	....
do 1877	416	509	25	2
do 1878	427	518	25	4
do 1879	443	542	23	6
do 1880	452	551	22	7
do 1881	462	553	23	9
do 1882	470	562	23	9
do 1883	484	578	23	9
do 1884	507	597	23	10
do 1885	526	617	23	12
do 1886	534	625	23	16
do 1887	561	658	23	24
do 1888	569	664	23	27
do 1889	579	675	24	29
do 1890	599	705	23	32
do 1891	605	710	23	31
do 1892	617	741	23	34

ONTARIO LIGHTHOUSE DIVISION.

This division includes the lighthouses and light-ships in that part of the Province of Quebec lying west of Montreal, all the lights in the Province of Ontario, embracing the lights on the Ottawa River, the St. Lawrence River above Montreal, the great lakes, and some of the smaller inland lakes, as well as a lighthouse and light-ship on Lake Winnipeg, in the Province of Manitoba.

The number of lighthouses, lighted-beacons and light-ships maint-ained by the Dominion in the Ontario division, inclusive of the two in Manitoba, is 214, located at 176 different stations.

The number of light-keepers in this division, paid directly by the Government, is 166, but in several cases assistants are employed by keepers and paid by them out of the allowance made by the Government for that purpose.

There are also in Ontario two fog-whistles, nine fog-horns and three fog-bells, all located at light stations, as well as two bell-buoys.

Besides the lights maintained by this department, as above described, there are in Ontario the following aids to navigation: two lights on swing bridges, maintained by the owners of the bridges; a system of lights on the Murray Canal, maintained by the Department of Railways and Canals; four pairs of range lights on the Detroit and St. Clair rivers, maintained by the American vessel owners principally interested; and twelve wharf lights, maintained by the municipalities or corporations to which the wharves belong. Six of these last described stations are aided by this Department to the extent of being furnished with the necessary oil for their maintenance.

The lights in this division, with the exception of those on the Bay of Quinté, the Ottawa River and the small lakes, were inspected during the months of July and August by Mr. Patrick Harty, Superintendent of Lights, and supplied with the necessary stores for annual maintenance.

The steamer "Celtic" was chartered for that purpose from the firm of Æneas D. MacKay's Sons, of Hamilton, for the sum of $4,000, but that vessel, having been wrecked between the date of charter and the beginning of the supply trip, was replaced by the propeller "Acadia," at the same cost. In the month of October Mr. Harty inspected all the Ottawa River lights.

NEW AIDS TO NAVIGATION.

Fog-horn at East End of Long Point, Lake Erie.

Early last spring the machinery was placed in the fog-alarm building erected last season at the East End of Long Point light station, and the fog-horn was put in operation for the first time on the 1st May last. The horn sounds blasts of 7 seconds duration, with intervals of 30 seconds between the blasts. The fog-alarm building is situated about 200 yards south of the lighthouse and about 400 yards from the shore. It is of wood, painted white. The horn is elevated about 20 feet above the ordinary level of the lake, and faces south-eastwardly. The whole of the steam boiler and machinery are duplicated, so that in case of any part breaking down, the alarm can be continued by the duplicate machine without interruption.

The contract price of Messrs. McCall & Mason for the erection of the building was $1,525, and the total expenditure in connection with the establishment of the alarm, including the furnishing of duplicate machines, was $4,686.39.

Barriefield Common Range Lights.

The range lights on Barriefield Common, to lead into Kingston Harbour, alluded to in last year's report, were duly erected and the lights put in operation for the first time on the 13th June last. The buildings are iron skeleton towers, triangular in plan, with oval slatted targets or beacons at their tops and sheds at their bases. The beacons are painted white, the iron framework red and the sheds brown. The lights are fixed white, shown from locomotive headlight lanterns hoisted to the tops of the tripods, and should be visible 12 miles over a small arc on each side of the line of range.

The front range building stands 370 feet east from the end of the bridge over Great Cataraqui Creek, and is 50 feet high, with the light elevated 48 feet above the lake level.

The back range light tower stands 1,500 feet north-east northerly from the front one, and is 80 feet high. The light is elevated 75 feet above the lake level.

The two iron towers were provided by the Canadian Bridge Company, of Montreal, at a cost of $467.00. The headlight lanterns were furnished by Messrs. Robert Mitchell & Co., of Montreal, and cost $55 each. The towers were erected, the sheds built, and the works completed under the superintendence of Mr. W. H. Noble, foreman of works.

The total expense in connection with the establishment of these lights was $1,190.67.

Fog-alarm at Nine-Mile Point.

It has been decided to establish a steam fog-horn at Nine-Mile Point light station to replace the bell at present in use, and tenders will be asked during the present winter for the construction of the necessary buildings.

Parry Sound Range Lights.

It has been decided to establish five range lights in the approaches to Parry Sound from the Georgian Bay, so as to facilitate entrance to that important harbour at night. Tenders will be invited for the construction of the necessary buildings during the present winter.

Light on Giant's Tomb.

A lighthouse is in course of erection on Giant's Tomb Island, Georgian Bay, in the channel to Penetanguishene, Midland, Victoria Harbour, Waubaushene, Muskoka Mills, Severn River, etc., under contract with Mr. Alphonse Tessier, of Penetanguishene, whose price is $1,595.

It is hoped that the light will be ready to put in operation on the opening of navigation next year.

St. Mary's River Lights.

Representations were made to the Canadian Government by the officers of the Lighthouse Board of United States in 1891, to the effect that the United States Government proposed to establish a system of range lights between Detour Passage and Sault Ste. Marie, in the St. Mary's River, so that the immense traffic through the "Soo" river might be facilitated by enabling vessels to navigate it by night as well as by day. It was pointed out to the Canadian Government that a complete system of lights could not be organized if the Engineer were compelled to limit himself to the territorial jurisdiction of the United States, as some of the required lines could only be marked on the Canadian shore. Under these circumstances it was suggested that the department should consider the advisability of co-operating with the American Government, and, by establishing certain lights on the Canadian side of the river, organize a combined international system. The Canadian Government thereupon decided to allow the United States Government to complete their system by erecting any lights required on Canadian territory, and this decision was communicated through the proper channel to Colonel Ludlow, Engineer of the 9th and 11th lighthouse districts. He, however, represented that the United States laws prohibited permanent construction for lighthouse purposes on sites other than those owned by the United States, and consequently he could not take advantage of the concessions made by the Canadian Government, but urged a reconsideration of the subject with a view to the erection of Canadian lights. Thereupon the Chief

Engineer of this department was sent to consult with Colonel Ludlow, and in November last the Government, acting upon the results of that consultation, decided to co-operate with the United States in establishing the system of lights desired. The Chief Engineer visited the St. Mary River in May last, in company with Colonel Ludlow, and as a result eight Canadian lights were put in operation in July and August last simultaneously with 38 United States lights. This system of lights it is learned, fulfils its purpose admirably, and permits free navigation of the river at night for all classes of shipping. The lights are of especial benefit to the heavy draft steamers which are almost exclusively American bottoms. The United States have since established three additional lights, and it is possible that further modifications of or additions to the lights already established may be required to render the system complete.

The following is a description of the Canadian lights established as above described :

1.—*Sailors Encampment Lower Range.*

Two fixed red lantern lights, shown from masts on the west shore of St. Joseph Island, half a mile below Ross wharf. Both lights should be visible two miles in, and over a small arc in each side of, the alignment.

The front mast stands on the shore line, and is 17 feet high. The light is elevated 19 feet above the level of the river.

The back mast stands 64 feet east from the shore line, and is distant 246 feet S. $\frac{7}{8}$ W. from the front one. It is 22 feet high, and the light is elevated 26 feet above the water.

The two lights in one, S. $\frac{7}{8}$ W., guide vessels down the river past the turn at Johnson's Point. The range should be kept from its intersection with Rains' wharf range till the Encampment (United States) crib light is passed, when the alignment should be left on the port hand.

2.—*Rains' Wharf Range.*

Two fixed red lantern lights, shown from masts at William Rains' wharf on the west shore of St. Joseph Island, opposite Johnson Point, and between the two Sailors Encampment ranges. These lights should be visible two miles in, and over a small arc on each side of, the alignment.

The front mast, 17 feet high, stands near the outer end of the wharf. The light is elevated 15 feet above the level of the river.

The back mast stands 390 feet S.E. from the front one. It is 22 feet high. The light is 24 feet above the level of the river.

This range is in the same alignment as the Point of Woods (United States) range, and is intended to guide vessels going down stream through the Dark Hole Passage, S.E., from its intersection with the alignment of the United States East Range, Dark Hole, to its intersection with the Sailors Encampment ranges.

3.—*Sailors Encampment Upper Range.*

Two fixed red lantern lights, shown from masts near the west shore of St. Joseph Island, half a mile below Reed Point. Both lights should be visible two miles in, and over a small arc on each side of, the alignment.

The front mast stands on rising ground, 640 feet from the shore of the river in the alignment, and is 17 feet high. The light is elevated 65 feet above the level of the river.

The back mast, 22 feet high, is 260 feet N. $\frac{7}{8}$ E. from the front one. The light is 73 feet above the water.

The two lights in one, N. $\frac{7}{8}$ E., guide vessels going up the river past the turn at Johnson Point. The alignment should be taken as soon as the Encampment crib (United States) light is abeam, and kept until the Point of Woods (United States) range lights are brought into alignment.

This range and the Sailors Encampment Lower Range, above described, are in the same alignment.

4.—*East Neebish Upper Range.*

Two fixed red lantern lights, shown from masts on the east or Canadian shore of the St. Mary's River, half a mile above Ned and Indian Points, and one mile below Birch Point. Both lights should be visible two miles in, and over a small arc on each side of, the alignment.

The front mast stands 159 feet back from the shore in the line of range, and is 17 feet high. The light is elevated 34 feet above the level of the river.

The back mast stands 302 feet N. $\frac{1}{2}$ E. from the front one. It is 22 feet high, and the light is 42 feet above the water.

The two lights in one, N. $\frac{1}{2}$ E., show the same alignment as the United States East Neebish range, and are intended to guide vessels going up the river through the upper reach of East Neebish from the intersection of the alignment with Indian Point (United States) range till abreast of Indian Point, whence a N.N.W. course will lead up the middle of the river clear of all obstructions to the intersection with Duck Island (United States) range.

The sites for all these lights were selected by Colonel Ludlow in connection with his survey of the river when establishing the American system of lights, and the masts were erected under the superintendence of Captain Joseph Rouleau, pilot for the river.

The total expenditure in connection with the establishment of these range lights has been $229.12.

Potters Island Light.

In consequence of the opening of the Murray Canal and the resultant increase of traffic, urgent demands were made for a light in the neighbourhood of Nigger Island, in the Bay of Quinté, at a point where the channel is narrow and intricate. It was not considered desirable to establish a permanent light at this point until a hydrographic survey of the bay should determine with exactness the proper location for such an aid to navigation, but partly as an experiment a temporary pole light has been established on the north point of Potters Island on the Prince Edward shore, opposite Nigger Island. The light, which is fixed white, shown from a tubular lantern hoisted to the top of a mast 20 feet high, was put in operation on the 22nd June last. It is elevated 22 feet above the water level and should be visible nine miles from all points of approach seawards.

PRINCIPAL REPAIRS AT EXISTING STATIONS.

Lachine Pier.

Repairs were made to the roof and siding of the lighthouse and dwelling during the past season, at a cost of $58.15.

Lake St. Louis Light-ships.

Repairs were made to the decks of No. 1 and No. 2 light-ships, to the lantern of No. 3 light-ship, and a new anchor and chain were furnished to No. 2 light-ship, at a total cost of $264.

Dorval.

Some repairs were made to the pier to remedy damage done by ice, at a cost of $57.40.

Pointe Claire.

The pier at this station having been partly undermined and moved by ice, was replaced from the water level upwards by a ⅝-inch steel plate casing 36 feet long, 26 feet wide, by 9 feet high, filled with stone and concrete packing, at a cost of $1,446. This work was done under the direction of Mr. W. H. Noble, foreman of works, and it is hoped will prove permanent. It is proposed to place some rip-rap in front of it to protect it during the coming winter against the spring shove of ice.

Pointe aux Anglais.

Tenders were invited for the new pier required at Pointe aux Anglais station, on the Ottawa River, as indicated in last year's report, and a contract was awarded to Mr. Richard Abbott, of Ottawa, to build the same for the sum of $1,175. The work is now in progress and the contractor is under bonds to complete it before the 15th March next.

St. Placide.

The back range light at this station was raised 12 feet and the two towers changed in colour to white, at a cost of $149.

McQuestion's Point.

The mast at this station was replaced by a new one 18 feet higher than the old mast, at a cost of $20, so as to enable the light to be seen above some trees that formerly intercepted it.

Lancaster Bar.

Extensive repairs were made at this station, including the placing of rip-rap to form a breakwater, reshingling of dwelling-house, and repairs to boat, at a total cost of $535.50. Work was done under the superintendence of Mr. T. H. Hill, light-keeper at Lancaster Pier.

Lancaster Pier.

The upper lighthouse tower at Lancaster was repaired at a cost of $28.40, and 70 cords of stone rip-rap were supplied under contract at $3 per cord to protect the foundation.

Hamilton Island.

Foundation at this station was repaired and re-pointed and the tower clapboarded anew. This work was done by contract at a cost of $150.

Grenadier Island.

A new fence was built around the lighthouse property, and the lantern was recovered at a cost of $87.75.

Lindoe Island.

The buildings at this station were repaired, and a new boat was supplied, at a cost of $86.50.

Jack Straw.

The piers at this station were repaired, 30 cords of stone rip-rap supplied, the lighthouse elevated, and the sub-sills renewed; a new lantern deck laid, and other repairs made to the building, which was old and in bad order. This work was done under contract by Mr. Joshua Legge, at a cost of $425.

False Ducks.

The lighthouse was pointed and whitewashed and some small repairs made to the dwelling.

Point Pleasant.

The foundation of the dwelling-house was repaired and the roof shingled, at a cost of $124.56.

Point Peter.

Advantage was taken of the low water to point the foot of the breakwater, at a cost of $30.22.

A new clockwork machine for revolving the illuminating apparatus has been supplied by E. Chanteloup, at a cost of $450.

Weller's Bay.

The range lights have been removed a distance of about 840 feet to the westward of their old locations, so as to indicate a better crossing over the bar at the mouth of the Bay. When removed it was found that the sills and parts of the posts were rotten, and the decayed portions were replaced by new timber. This work was done under contract by Mr. Geo. Crowe, of Trenton, whose price was $216.20.

East End, Long Point.

The dwelling was reshingled and stone was put under the fog-alarm building to retain the sand, at a cost of $130.

West End, Long Point.

The tower was reshingled and posts partly renewed, at a cost of $334.

Pelee Spit.

The steel plating on the pier was extended and the angle irons on the plating put on last year, which had been damaged by storm, were repaired, under the supervision of Mr. Noble, at a cost of $516.45.

Middle Island.

The building was thoroughly renewed and reshingled. Settlement of the account for this work is yet in dispute as the work was undertaken without explicit authority.

Bois Blanc Island.

The range light towers at the head of Bois Blanc Island, in the Detroit River, referred to in last year's report, were duly replaced by iron towers. The new structures are iron skeleton towers, triangular in plan, with oval, slatted beacons or targets at their tops. Both towers are on the sites of the old wooden buildings. The front range tower stands 300 feet from the extreme north point of the Island, and is 70 feet high. Both tower and target are painted white. The light is, as before, fixed white and is elevated 70 feet above the level of the river.

The back range light tower stands 450 feet S. by W. $\frac{1}{2}$ W. from the front one. It is 90 feet high and with its target is painted red. The light continues fixed red, and is elevated 90 feet above the level of the river.

Both lights should be visible about two miles in and over a small arc on each side of the line of range. The towers were furnished by the Canadian Bridge and Iron Co., Montreal, at the contract price of $573. They were erected in position by Mr. W. H. Noble, foreman of works, and the total expenditure in connection with their establishment has been $1,128.22.

Corunna Back Range Light.

The back range lighthouse at Corunna, on the River St. Clair, was burnt down on the 15th June last. Plans and specifications have been prepared for a new tower and a contract let to Mr. James Adair, carpenter, of Courtright, to build the same for the sum of $205, the work to be finished by the 22nd November next. In the meantime a temporary light is shown from a lantern hoisted on a pole. The front range building and the back range building, since burnt, which were open frame towers, were last spring partially enclosed, to facilitate the exhibition of a more efficient light. This work was done by Mr. J. Adair under contract, and cost $205.

During Mr. Harty's tour of inspection he paid special attention to the supply of boats to the several lighthouses, and the condition of boat-houses to maintain the same under proper shelter. He reported several stations to be deficient in boats or boat-houses, and steps have been taken to remedy these defects. The expenditure involved will be small and will appear charged to the several stations in next year's accounts.

Point Clark.

The dwelling was reshingled and minor repairs made, at a cost of $107.

Cove Island.

A new pony pump was provided and fitted to the fog-alarm machinery, and minor fittings made, at a cost of $183.

Great Duck Island.

A new fence was authorized to be put up by the keeper.

Griffith Island.

A wire fence was erected by the keeper around the lighthouse property, the tower and dwelling were whitewashed and pointed, and a new boat-house was provided. The cost of this work has been $125.

Christian Island.

Some necessary repairs to the dwelling have been made and a new boat-house built, at a cost of $108.17.

Lone Rock Bell-buoy.

Went adrift from its moorings in the beginning of September. A new anchor and chain have been provided at a cost of $200, and the buoy has been replaced.

Red Rock.

Two piers to protect the lighthouse boat were built by the keeper at a cost of $100.

Kagawong.

The mast and shed from which the lens light was exhibited were burnt down by the fire which destroyed most of the village on the 18th October last. It is intended to replace the mast light by an enclosed tower next spring.

QUEBEC LIGHTHOUSE DIVISION.

This division comprises the aids to navigation below Montreal on the Rivers St. Lawrence and Richelieu, in Lakes Memphremagog and St. John, as well as all the lighthouses, light-ships, steam fog-whistles, gas, bell and other buoys and beacons in the River and Gulf of St. Lawrence, within the limits of the Province of Quebec, on the north-west coast of Newfoundland and the Labrador coast. This division is under the charge of Mr. J. U. Gregory, agent of the department at Quebec, who also has under his superintendence the Dominion steamers "Alert" and "Druid."

Besides performing the duties of Agent of the Department of Marine and Fisheries at the port of Quebec, Mr. Gregory is also Superintendent of River Police and Shipping Master for the port of Quebec, and attends to the requirements of the British Board of Trade, in connection with distressed seamen, shipwrecks, and casualties at sea, and acts as Receiver of Wrecks.

His staff consists of Messrs. L. A. Blanchet, Accountant and deputy shipping master, G. H. O'Farrell and A. Hamel, clerks, N. Fitzhenry, store-keeper and wharfinger. Captain E. Larochelle, inspector of lights and pilot, was attached to the agency up to the 30th of June when he resigned. The workshops are under the control of C. Vézina, master shipsmith, and Pierre Jobin, master carpenter.

There are in this division 150 lights at 114 stations, 8 light-ships, 3 of which are supplied with steam fog-whistles; 7 fog-guns, 2 explosive bomb stations, 2 fog-whistles and 8 steam fog-horns at light stations; 10 gas buoys, 4 of which are supplied with bells, and 59 beacons.

The steamer "Alert" supplied all the lights in the lower part of the River St. Lawrence, the Gulf, Baie des Chaleurs, Anticosti, Strait of Belle Isle, Labrador and north-west coast of Newfoundland.

The "Druid" was not put in commission until the month of September, 1892, when she was hurriedly fitted out for the purpose of conveying disinfecting apparatus to Grosse Isle in connection with precautions taken against the introduction of cholera. The steamer was placed under the control of the Superintendent at Grosse Isle, but is manned and supplied by this department.

The lights between Quebec and Montreal were supplied by arrangements different from those of former years; formerly the inspection and delivery of supplies was done by the officers and crew of the "Druid." In the spring of 1892, the supplies were placed on board market boats and were landed at the wharves nearest the light stations. Captain Demers had the supplies under his control and by his directions they were conveyed to the places required at the same time he visited the lighthouses for the purposes of inspection.

The lights, fog-alarms, etc., in this division below Quebec, were inspected partly by Capt. Larochelle and by Mr. G. H. O'Farrell, Mr. Pierre Jobin, master carpenter and Mr. J. Rolph, chief engineer of the ss. "Alert," after the resignation of Captain Larochelle.

The gas buoys of which there are 10, were placed in position and maintained by the "Alert," and by tug boats specially employed, at times when the "Alert" was not available.

NEW FOG-ALARM.

Cape Magdalen.

The steam fog-whistle alluded to in last year's report was duly put in operation on the 24th September last, at Cape Magdalen light station, on the south shore of the Gulf of St. Lawrence.

Tenders for the erection of the necessary buildings were called for in March last, but none having been received the work was done under the direction of the agent of this department at Quebec, the necessary materials being purchased in the Quebec market and sent down to the station by the Government steamer. The fog-alarm building is of wood, painted white, with a brown roof, and stands on the top of the cliff in front, and a little to the west of, the lighthouse tower.

The whistle which is elevated about 128 feet above high water mark, gives single blasts of 8 seconds' duration, with intervals of 22 seconds between the blasts.

The total expenditure in connection with the establishment of this fog-whistle has been $530.

EXTENSIVE IMPROVEMENTS OR REPAIRS.

Pointe aux Citrouilles.

Tenders were invited last spring for a new lighthouse to replace the temporary pole at Pointe aux Citrouilles, in the County of Champlain, on the north shore of the River St. Lawrence between Quebec and Montreal, as indicated in last year's report, and a contract was awarded to Mr. F. A. Verrette, of Three Rivers, to erect the same for $1,675. Tho contract was duly completed and the light put in operation for the first time on the 14th September last. It is fixed white, elevated 40 feet above high water mark, and should be visible 11 miles from all points of approach. The illuminating apparatus is dioptric, of small size.

The pier is built on a gravel ridge at the most prominent part of the low-lying point. The lighthouse is a square wooden building, painted white, surmounted by an iron lantern, painted red, and stands on a platform on the middle of the hip roof.

The height from the ground to the vane on the lantern is 41 feet.

The total expenditure in connection with the improvements to this station has been $1,679.55.

Trembles Shoal Gas Buoys.

On the 29th June last two gas buoys, with bells attached, replaced the light-ships temporarily maintained during the two previous seasons off the south-east extremity of Trembles Shoal, and off the west extremity of Paget bank, near St. Croix, in the River St. Lawrence above Quebec. The buoys are moored in the positions previously occupied by the schooners and are painted red, with the words "Trembles Shoal" and "St. Croix" respectively on them. Each buoy shows an occulting white light from an elevation of 14 feet above the water, and the bell rings automatically by the action of the waves.

These buoys were purchased in England from the Pintsch Patent Lighting Company (Limited), and cost $7,300 for the two.

Cape Gaspé.

Mr. Nesbitt has completed his contract for the erection of a lighthouse and keeper's dwelling combined at Cape Gaspé light station, and the new light was put in operation for the first time on the 1st November, 1892.

The new light is a revolving white catoptric light, showing three bright flashes with intervals of 15 seconds between their points of greatest brilliancy, followed by an interval of 30 seconds, during the greater part of which the light will be eclipsed, the light thus completing a revolution in one minute. It is elevated 355 feet above high water mark, and should be visible 26 miles. The lighthouse stands on the site of the old one, close to the edge of the precipice which forms the south face of the Cape. It is a wooden combined lighthouse and dwelling, the square tower rising from the middle of the south face of the dwelling. The walls of the building are white; the dwelling roof is unpainted. The iron lantern surmounting the tower is red. The height of the building from the base to the vane on the lantern is 46 feet.

The total cost of the renewal of this lighthouse has been $5,421.15.

Rich Point.

Tenders were invited last spring for the erection of a new lighthouse on Rich Point, Newfoundland, as indicated in last year's report, and a contract was awarded to Mr. Daniel McDonald of Pictou, N.S., the lowest tenderer, at $1,750. He completed the work satisfactorily and the new light was put in operation for the first time on the 20th October. It is a revolving catoptric white light, showing two bright flashes with an interval of fifteen seconds between their points of greatest brilliancy, followed by an interval of thirty seconds, during the greater part of which the light will be eclipsed, the light thus completing a revolution in forty-five seconds. The light is elevated 93 feet above high water mark, and should be visible fifteen miles from all points of approach seaward.

The new tower is an octagonal wooden building, painted white, surmounted by an iron lantern painted red. It stands on the site of the old building, near the extreme point, on ground 44 feet above the water. Its height from the ground to the vane on the lantern is 58 feet.

The total expense in connection with the renewal of this lighthouse has been $2,347.51.

MINOR REPAIRS, &c.

The following is a statement of some minor repairs and improvements made at the several stations in this agency during the past year. In addition to those mentioned, ordinary repairs were made, supplies delivered, and painting done wherever required :—

Bellechasse.

A good winch for hoisting the boat used by the lighthouse keeper was supplied.

Kamouraska.

The boat for this section drifted from its moorings last fall and was injured. The boat was repaired at Green Island and is now good and sound.

Father Point.

A life-saving canoe that was at this station has been taken to Quebec.

Pointe de Monts.

Repairs were made at this station by two men taken from Quebec on board the "Alert."

Montée du Lac.

Repairs were made at the station last fall.

Cape Rosier.

Lumber was landed, and two carpenters were left to make the necessary repairs to the tower.

South-west Point, Anticosti.

Two carpenters taken from Quebec were landed to erect a building in connection with the tidal gauge to be located at this point.

South Point, Anticosti.

Lumber for repairs to the Sailors' Home, or House of Refuge, was landed.

Forteau.

Carpenters and the crew of the steamship "Alert" removed the fog-whistle and fog-whistle building to a point below and in front of the lighthouse, so that the alarm might be on the most prominent headland. The boat at this place has been repaired by the keeper.

NOVA SCOTIA LIGHTHOUSE DIVISION.

This division, in charge of Mr. H. W. Johnston, agent of the department for the province, includes the charge of 169 light stations exhibiting 187 lights, 1 light-vessel, 16 steam fog-alarms, 1 signal bomb station, 17 hand fog-alarms, 2 fog-bells, 12 automatic whistling buoys and 9 iron bell buoys on stations, 92 iron can buoys, about 700 spar and other small buoys, 8 stationary beacons, 15 life-boat stations, 3 humane establishments and 4 signal stations. The steamer "Newfield" is also under the control of this agency.

The lighthouses, fog-alarms and life-saving stations were inspected by Mr. C. A. Hutchins, superintendent of lights for the Nova Scotia division, and the boilers and machinery were examined by Mr. Warner of the "Newfield," as opportunity offered.

NEW LIGHTS.

Two new lights are in course of construction and will be ready to be put into operation this season, viz. :—

Dover—West of Halifax.

A small lighthouse with dwelling attached has been built on the southern end of Callaghan Island, in Port Dover or Dover Harbour, in the County of Halifax, as indicated in last year's report.

The building is of wood, painted white, and consists of a square tower with keeper's dwelling attached. The tower is surmounted by an iron lantern painted red, and is 31 feet high from its base to the vane on the lantern.

The light will be fixed white, elevated 50 feet above high water mark, and should be visible 12 miles from all points of approach. The illuminating apparatus is dioptric, of small size.

The light is so located that vessels running for it on a N.N.W. course will pass clear to the westward of Shag Bay breakers, which are marked by a red iron can buoy, and enter the harbour to the eastward of Fleming Island.

The total expenditure in connection with the erection of this light has been $1,263.05.

Candlebox Island.

As the lowest tender received last year for the construction of a lighthouse on this island was considered too high, and as the department on further consideration deemed it advisable to have the work done by tender and contract, rather than by day's work, new tenders were called for in June last, and the contract awarded to Mr. John B. Porter, of Belleville, Yarmouth County, for the sum of $2,248, his being the lowest tender received. The work will probably be completed shortly.

PRINCIPAL REPAIRS AT EXISTING STATIONS.

The following is a statement of the more extensive repairs and improvements made at the several stations during the past year. In addition to those mentioned, ordinary repairs and replacing of supplies were made and painting done wherever required.

EAST OF HALIFAX.

George's Island.

Two unfinished bedrooms in lighthouse were sheathed with matched lining and fitted with doors. The work was done by Mr. John Mulrooney, of Halifax.

Meagher's Beach.

The experiment made last year of building two groins with a view of gathering beach gravel having proved encouraging, specifications and plans were prepared in May last by Mr. Anderson, Chief Engineer of the department, for the construction of four additional groins 40 feet long by 10 feet wide, and a breakwater to run from the end of the pile work on the east side of the lighthouse tower for a distance of 75 feet, thence to the pier at the boat landing, a distance of 210 feet. Some difficulty has been experienced in procuring logs suitable for this work, and the commencement of the work was in consequence retarded. Three hundred and sixty-nine suitable logs were eventually purchased from Mr. Robert Routledge, of Sheet Harbour, and landed at Meagher's Beach, at a cost of $566.61. The work has been in progress since 4th August under the superintendence of Mr. Edward Horne, keeper of Meagher's Beach, and was completed by the end of October.

Devil's Island.

The Silber burner lamps hitherto in use at the East Light have been changed to Mammoth flat wick burners, making the lamps in both lights alike in character. A wire fence is being erected to prevent cattle from defacing the buildings and destroying the keeper's garden.

Egg Island.

The boat slip at this station having been partially destroyed by last winter's gales, repairs were effected in May last by Mr. John Mulrooney, 100 feet of the old slip being repaired and 63 feet of new work added. The lantern deck has been repaired with canvas where required.

Sheet Rock.

The landing slip having been destroyed by the sea last winter, Mr. John Chisholm, of Dartmouth, was sent to build a new slip at a cost not exceeding the estimate of $300 as authorized by the department. A good and substantial slip, well secured and ballasted, has been built at a total cost of $295.92.

The kitchen chimney has been taken down and rebuilt from the roof, two blocks for revolving clock rope supplied, and shaft bearings adjusted.

Liscomb.

Roof of kitchen has been reshingled.

Wedge Island.

Three corners of foundation wall have been taken down and rebuilt and the wall pointed with cement mortar throughout. Drain leading from cellar has been opened up and renewed, and a new box leading from cistern to pump pipe supplied.

Country Harbour.

The 10 panes lantern glass have been taken out and reset with rubber strips, in consequence of all the glass being cracked and the putty defective. A similar test made at Cape Sable last year has resulted in saving the glass from being cracked by the vibration of the building during heavy storms. A new boat has been supplied and the buildings are being painted.

Tor Bay.

Five new lamps have been supplied to replace old and worn out ones.

White Head.

The roof of store at landing has been reshingled, some minor repairs done to store at station, and new floor laid in kitchen. Lighthouse and buildings painted.

Canso Harbour.

The plaster in two rooms has been repaired.

Sand Point.

It has been decided by the department to abolish the old-fashioned lighthouse at this station and to erect next year a more modern tower fitted with a more powerful illuminating apparatus. This work will be done by contract.

Point Tupper.

A new fence is in course of erection to replace the old one enclosing the light house lot. A new ensign has been supplied.

Crichton's Head.

The eastern end of the breakwater has been repaired by replacing several decayed timbers and filling up with stone ballast.

Jerseyman's Island.

A new copper cowl has been supplied for the lantern, and chimney repaired and lighthouse painted.

Arichat.

Frame of cellar door renewed, fence repaired and a new cap fitted to ventilator

Petit de Grat.

The boat slip has been repaired and wall of oil store shingled.

Green Island.

A new Chanteloup clock has been supplied to replace the worn out clock hitherto in use. Two new reflectors supplied.

Isle Ouetique.

Rail of lantern deck repaired.

Guyon Island.

Three new reflectors supplied and four new lamps repaired.

Gabarous.

One hundred and fifty feet of road over swamp has been built up at a cost of $20.

Louisburg.

Five lamps repaired, ensign and spy-glass supplied, and lighthouse and buildings painted.

Main à Dieu.

The lantern glass will be taken out and re-set with rubber strips, as the putty has become bad and glass cracked through vibration of building.

Scattarie.

A boat supplied for the station ; kitchen floor re-covered and minor repairs made to dwelling.

Cow Bay.

New frame for lantern erected; top of house renewed and a new lantern supplied.

Low Point.

Roof of barn re-shingled and lighthouse and buildings painted.

Lingan.

Lighthouse painted, and handsaw, square and jack-plane furnished keeper for doing ordinary repairs.

Point Aconi.

Lantern deck repaired and new rail post supplied.

Black Rock Point

New sill and floor placed in entrance porch and roof repaired; lighthouse painted.

McKenzie's Point.

Roof of keeper's dwelling re-shingled. Deck of lantern re-covered with canvas and a new step fitted at entrance to the door of lighthouse. Lighthouse painted.

Grand Narrows.

It has been decided to abolish this light and to erect a new light on Gillis' Point, which will be more useful inasmuch as it will both afford a good light to vessels navigating the Bras d'Or lake to the eastward of Grand Narrows and guide vessels seeking shelter in Gillis' Harbour.

Freestone Island.

A small breakwater is in course of construction to protect the buildings from encroachment of the sea, which during the past winter has washed away the gravel beach in front of the pole light and keeper's dwelling.

Jerome Point.

Hand fog-trumpet repaired and five new smoke-pipes furnished for lamps.

Bird Island

New spouts fitted to gutters leading into cellar tanks. New wire clock cords and spindle socket supplied to revolving clock.

Cape St. Lawrence.

The landing slip has been renewed and boat-house underpinned.

Margaree Harbour.

Landing slip repaired and boathouse furnished with a winch; new floor laid in kitchen and plaster in two rooms repaired.

Mabou.

The outer light on the pier will be removed at the close of navigation to a place of safety in consequence of the dilapidated condition of the pier. It will be placed in proper position at the opening of navigation next spring.

North Canso.

Chimney built up clear of lantern, and spouts leading to tank repaired.

Pomquet Island.

A new boat, reported supplied last year, was not sent until this year, along with other supplies; building painted.

Cariboo.

Roof re-shingled and fence renewed; building painted.

Amet Island.

The lantern roof and breakwater will be repaired this season.

Pugwash.

The roof of dwelling has been re-shingled.

WEST OF HALIFAX.

Chebucto Head.

Building painted; new clock cord and two 30-lb. weights supplied.

Sambro.

The water tank in the old fog-whistle house has been fitted up as a magazine, and the supply of gun cotton cartridges stored therein. Improvements have been made in the watch-room and a stove supplied: buildings painted.

Betty's Island.

A hand fog-trumpet has been placed at the station to be sounded in answer to a steamer's whistle in thick weather; building painted; a plank walk over swampy portion of road from landing to lighthouse has been constructed.

Croucher's Island.

Fence enclosing lighthouse lot renewed.

Chester Ironbound.

A hand fog-trumpet has been placed at this station, to be sounded in answer to a steamer's whistle in thick weather; building painted.

Moser Island.

Building painted and a new hand fog-trumpet supplied.

Little Hope.

The landing slip has been repaired under the superintendence of keeper, at a cost of $42.50.

Carter's Island.

Roof of keeper's dwelling has been reshingled.

Sand Point.

Some necessary repairs to top of pier are being attended to.

Barrington Light-ship.

A new lantern supplied. The moorings will be lifted, examined and replaced, and if practicable this year, the vessel will be beached in order to have her bottom cleaned and painted.

Seal Island.

A Chance's 4-wick pressure lamp has been supplied to replace the 1-wick pressure lamp hitherto in use, with a view of improving the efficiency of this important light. The old lamp will be retained as a spare lamp in case of accident.

Yarmouth.

A new 10½-foot iron lantern fitted with a large sized Chanteloup revolving clock and illuminating apparatus, consisting of nine mammoth flat wick lamps fitted with 20½-inch reflectors, has been erected on the lighthouse tower in place of the old style lantern and small lamps hitherto in use. The character of the light has also been changed from an intermittent to a revolving white light showing three bright flashes with intervals of twenty seconds between their points of greatest brilliancy, followed by an interval of 40 seconds. The work was done under the supervision of Mr. B. R. Williams, of Yarmouth, and the new light was put in operation on the 20th day of August. Three sides of the lighthouse tower have been reshingled and the buildings painted. The total cost of these improvements was $2,805.89.

Bunker Island.

New entrance door and frame fitted and window repaired. The advisability of building a concrete pier for the light is still under consideration.

Cape St Mary's.

Lantern deck repaired and re-covered with canvas.

Meteghan.

A green anchor lens lamp supplied in place of catoptric light.

FOG-ALARMS.

Cape Race.

Both boilers have been retubed. New smokestack supplied. The Crossby automatic attachment has been brought off, repaired and returned. Sills of whistle-house renewed for 37 feet and portions of roofing and clapboards repaired. Sills, roof and sides of covered way, from whistlehouse to lighthouse, 250 feet long, have also been repaired.

St. Paul's Island.

Legs and fire-box of boiler received two soft patches. A 10-inch whistle with extra bell supplied.

Cranberry Head.

Building painted. Pistons taken out, cleaned and replaced. Stop-cock and check valve supplied.

Scattarie.

100 feet fire-box supplied. Clapboarding on engine-house repaired.

Cranberry Island.

Pipes, dies, stock and check valve supplied and minor repairs to steam pipes.

Chebucto Head.

The building was completed, boilers placed and connections made and the fog alarm put in operation on the 1st June last. The boilers were landed by the

"Newfield" and connections made by Messrs. McDonald & Co., of Halifax. Much satisfaction has been expressed by shipmasters frequenting Halifax with the usefulness of this fog alarm, and it has already proved to be a great aid to vessels seeking an entrance to Halifax Harbour during thick or foggy weather.

The fog whistle building stands in front of and below the lighthouse on a site on the extremity of the head, 174 feet back from the water's edge. It is of red brick, with a slate roof, and the whistles are elevated 73 feet above high water mark.

The whole of the machinery is in duplicate to prevent risk of delay in case of accidents. The signal consists of single blasts of 10 seconds duration, with intervals of 50 seconds between them.

Sambro.

The watch room has been improved and supplied with a store. A large percentage of detonators continue to prove useless, and it is proposed to make some experiments with dynamite caps with a view to supplying something reliable whereby the signals may be fired at proper intervals.

Cross Island.

A shed 20 x 30 has been erected at the landing for the temporary storage of coal and lighthouse supplies. The reservoir at the station has been enlarged from 6 x 8 to 20 x 30 and covered with a shed roof. This work has been done by Mr. John Chisholm, carpenter, of Dartmouth.

Three reeds supplied and reed box replaced. New steam gauge supplied.

Cape Fourchu.

The new brick fog-alarm building was duly completed as indicated in last year's report. The duplicate boiler built by the Pictou Iron Foundry Co., was set up alongside the new one furnished last fall by W. G. Matheson, of New Glasgow, and all connections made. Both boilers have been covered with asbestos cement by the Burrill, Johnstone Iron Company of Yarmouth. A Crossby automatic attachment has also been supplied. This station is now one of the most complete on the coast, being equipped with duplicate boilers.

Cape d'Or.

Three new soft patches put on boiler.

Apple River.

A spare new horizontal boiler was sent from our stores here and set up in place of the old worn out upright boiler hitherto in use at that station and previously in use at St. Martin's Head. Foundation under cylinder was also repaired.

BUOY SERVICE.

The "Newfield" took up our eastern coast buoys for the winter about the middle of January this year and replaced them for the season of navigation between the 4th and 11th May. In performing this service it is now found necessary to make two trips, as the ship will not carry the full number on deck in one trip.

In accordance with instructions, more time has been devoted by the "Newfield" during the past than in previous years in changing buoys and moorings on the coast

and buoys in Halifax Harbour. During November and December, as opportunity occurred, all the above buoys and moorings were changed, and in May and June coast buoys and moorings were again changed and the Halifax Harbour buoys changed, leaving the same moorings to do duty for the summer months. Before the ships lay up this winter it is proposed to again change all buoys and moorings for another six months service. This plan has fully demonstrated the necessity for making such changes, at least every six months, as the following brief list of casualties as compared with that of former years will show :—

Bantam Automatic.

November 21, 1891. "Newfield" found anchor stock gone.

South-West Breaker Sambro—Can Buoy.

January 26th, 1892. Buoy picked up adrift by fishermen and recovered with 15 fathoms chain attached. Salvage paid, $40.

Middle Ledge off Country Harbour—Can Buoy.

January, 1892. Picked up adrift by fishermen and towed into Salmon River. Brought home by "Newfield." Salvage paid, $40.

Cape Fourchu—Bell-buoy.

January 16, 1892. "Newfield" brought in buoy and moorings for the winter, with loss of cage and spindle. Cost about $5 or $10.

The Nova Scotia coast buoys in the Bay of Fundy, west of Cape Sable, having been attended to by the St. John Agency, no record of them has been kept in this office.

No new coast buoys have yet been placed this year, but it is contemplated to place the following as soon as arrangements are completed, viz :—

Thrum Cap—Bell buoy.
Never-fail—Iron can buoy.
Egg Island—Automatic.
Cow Bay Ledge—Iron can buoy.

HARBOUR BUOY SERVICE.

The following additions have been made during the past year :—

Arichat.

No. 2 iron can buoy, hitherto marking the Cerberus, has been placed off "Henly Ledges," and a No. 1 can buoy placed off the "Cerberus."

Sambro Harbour.

A red spar buoy placed on west side of Henneberry Shoal.

A number of contracts for harbour buoys have been renewed at old rates and several new contracts entered into by the department.

The following buoys and moorings have been received at Halifax since date of last report :—

6 4-feet or No. 2 iron can buoys from the Truro Iron Foundry, made by contract for which tenders were invited ;

120 fathoms $1\frac{1}{4}$-inch close link chain ;

60 fathoms 1-inch close link chain ;

90 fathoms $\frac{3}{4}$-inch close link chain, from Timothy Parks & Son.

12 granite mooring stones—from John Kline.

COAL.

The arrangements made for coal supply at the Fog Alarms for this year were carried out as follows :—

Apple River, Cap d'Or, Point Prim, Briar Island, Cape Fourchu, Seal Island, Cape Sable, Cape Roseway.	Spring Hill coal delivered by Messrs. Townshend, & Co., of Parrsboro', at the different stations, at $5.40 per ton.
Cape Race,	Gowrie Mine coal delivered by Archibald & Co., at Cow Bay, at $1.70 per ton. James Baird, of St. Johns, Nfld., freight to station at $3.25 per ton, according to contract. Tenders were invited for the supplying of coal in the spring, the tender of Archibald & Co. being the lowest.
St. Paul's Island,	Gowrie coal delivered by Chas. Archibald & Co., at $4.80 per ton.
Scatterie,	Gowrie coal delivered by Chas. Archibald & Co., at $3.80 per ton.
Cranberry Island, Meagher's Beach, Chebucto Head, Cross Island.	Gowrie Mine coal by Archibald & Co., at Cow Bay, at $1.70 per ton, delivered by Government ships.

ST. PAUL'S ISLAND.

No wrecks have occurred on the island since date of last report. All the stations were inspected by the Superintendent of Lights on the 18th August, and found to be in good condition. Materials were landed by the "Newfield" to rebuild landing slip at the N. E. Light as authorized. Owing to the lateness of the season when landed, and subsequent accident to the "Newfield," it was considered advisable to defer sending workmen to build slip until early next summer when continuous fine weather may be counted upon.

S. W. Light.

A new copper cowl has been supplied to replace one destroyed previous winter. New wire gauge fitted to strainer in lamp and a spy-glass furnished. The buildings are being painted.

N. E. Light.

Wire gauze fitted to strainer and a spy-glass furnished. Buildings are being painted. Next year a new kitchen floor will be required.

Fog Alarm.

The legs and fire-box of boiler received two soft patches each and a new whistle was supplied.

Fresh provisions were landed at the main station on August 18th, for the Humane Establishment, and old provisions brought off as follows:—

10 bbls. flour, 10 bbls. bread, 4 bbls. beef, 4 bbls. pork, 1 bbl. rice.

These provisions were subsequently landed from the "Newfield" on the beach at North Canso. One barrel of biscuit was destroyed and some of the barrels of beef and pork broken open and contents carried away by the shore people. What was eventually saved was sent to Port Hastings and sold at auction and the proceeds when received will be placed to the credit of the Receiver-General and account sales forwarded.

A pony from Sable Island and a new horse cart were supplied this year.

The following copy of report from the superintendent is submitted:—

General Report.

Engineer attends the fog alarm, keeps everything in repair and sounds the fog alarm for sixteen hours out of every twenty-four in dark and stormy weather.

Light-keepers.

Keep lighthouses, dwelling-houses and outhouses in repair and in good order. Lights are of the first order dioptric and have to be closely watched every night.

Boatmen.

Their duties are various, such as taking fuel and supplies to different stations hauling coal to fog alarm and sounding the fog-whistle eight hours out of every twenty-four in dark and stormy weather, keeping a close watch if there is a wreck of any kind to report immediately to the superintendent. At this date every thing on the Island is in good order and doing well, and from reports secured from a large number of fishing vessels usually fishing around this Island, the lights are reported to be the very best on the coast, always shining clear and brilliant light.

There are no wrecks to report or casualty of any kind.

SABLE ISLAND.

Two wrecks are known to have occurred on the island since the last report, viz.:—

12th May.—Norwegian bark "Henry," Jacobson master, of and from Tonsberg, in ballast, struck N.E. bar. Six men were landed in the ship's boat, the balance of the crew (six) were drowned on the morning of the 13th by the breaking up of the bark. Survivors left the island on the 14th.

11th June.—Brig. "Kaluna," of New York, Weldon master, from St. John, N.B., for Buenos Ayres, lumber, ran ashore, partially dismasted and waterlogged. The crew landed in the ship's boat, and left the island on the 17th. About 200M. feet of the cargo was saved by the island staff.

All the stations throughout the island were inspected on the 15th and 16th of June and 8th of August by the Superintendent of Lights and found to be in a satisfactory condition.

A thoroughbred Holstein bull was purchased from Hon. Judge Meagher for $55, and sent to the island on the 5th of May by the "Newfield."

On the 14th of May the stock stallion "Flying Frenchman," purchased from Mr. M. Wallace for $180, was sent to the island.

A Beebe-McLellan self-baling life-boat was sent to the Island on the 14th of May.

A new dwelling house 16 by 22, barn 24 by 30, and outhouse 10 by 12, have been erected at the new site selected, midway between No. 1 and No. 3 stations. The materials have largely been furnished from lumber saved from the wrecked brigantine "Kaluna."

Fifty-four ponies were brought off by the "Newfield" on the 16th of June. One was accidentally strangled on the wharf, and the remaining 53 sold at public auction, realizing $705.12 net.

One pony was sent from the island to St. Paul's to replace a worn-out horse in use at that station for hauling coal and firewood.

NEW BRUNSWICK LIGHTHOUSE DIVISION.

There are in operation in connection with this agency 118 lighthouses at 94 stations, one light-ship, 12 steam fog alarms, nine of which are located at light stations, and one fog gun. These are in charge of 100 keepers, some of whom pay assistants out of the salaries allowed them. There are also four whistling buoys, and three bell buoys stationed in this Province.

The oil was purchased from the Imperial Oil Company, and no complaints have been received about it. The department also purchased from the Pratt Manufacturing Company 2,500 gallons of American oil for use in dioptric lights.

NEW RANGE LIGHTS.

Lower Neguac.

As indicated last year, tenders were invited for the removal of the abandoned light buildings at Tabusintac to Lower Neguac, where they were to be utilized for a range to lead through the channels over the bars. The lowest tender received, $245, was considered more than the work was worth, and Mr. W. H. Noble was accordingly sent to make the change, which was completed in the beginning of October last, but the lights will not be put in operation until the opening of navigation next year.

The front light is established on the east end of the block at the outer end of the Lower Neguac Wharf, and is shown from a lens lantern hoisted on a mast 16 feet high, having a shed at the base, the whole painted brown. A diamond-shaped slatwork attached to the mast makes it more conspicuous as a day beacon. The light is fixed white, elevated 20 feet above high water mark, and should be visible nine miles from all points of approach. Besides indicating the line of range, it will serve as a guide to vessels making the wharf.

The back light building stands on the beach N.N.W. $\frac{1}{4}$ W. 1,050 feet from the front one. It is a square wooden enclosed tower, painted white, surmounted by a lantern, painted red, and is 33 feet high from its base to the vane on the lantern. The light is fixed white, catoptric, elevated 32 feet above high water mark, and should be visible ten miles in and over a small arc on each side of the line of range.

The total cost of making this change has been $205.07.

REPAIRS AT EXISTING STATIONS.

Anderson's Hollow Light.

The lighthouse tower on the breakwater at that place was torn from its foundation, but was restored, and has remained firm ever since it was repaired, and is well maintained.

Beaver Harbour Light.

Mr. Edward Snell, late keeper of this light, died on the 29th February last, and Mr. John Conley was appointed keeper on the 2nd April last, at a salary of $270, being the same amount allowed the late keeper. The sum of $30 was paid to David Eldridge for making 63 rods of road. The lighting apparatus is in good order.

St. John Harbour Beacon Light.

The beacon block is now in good condition; the outside of the block was white-washed from high to low water mark. Sixteen new steps and four new planks were put on the abutment, and three new planks on the breastwork of the beacon block. The boat and davits were repaired and everything is in good order.

Bathurst Light.

The roof of the lighthouse tower was repaired at a cost of $11.93.

Belyea's Point.

The outside and inside of the building was painted from top to bottom this spring. The block and tower are in good order, and the inside of the building is clean and well kept.

Big Duck Island.

As reported last year tenders were invited for an addition to the keeper's dwelling at Big Duck Island fog-alarm station, and for certain repairs to the tank, etc. The bids received were considered excessive by the department and the work is now being carried on under the supervision of Mr. Ross, carpenter of the Dominion steamer "Lansdowne."

Bridges Point Light.

This station is in good order. The site was purchased from Mrs. Mary A. Bridges, 100 feet square of land, with a right of way, for $150, and S. M. Starkey surveyed same at cost of $18.50.

Cox Point Light.

The lighthouse is on the shore of Grand Lake, and though surrounded on lake side by a block, the sea had made a breach over the shore wall and was undermining

ıe foundation partly from the inside as well as from the outside; consequently it as necessary to protect the foundation from further damage by an additional allast block and stone, at a cost of $47.50. Beyond this no expenses were incurred ıring the year except the ordinary supplies.

East Head Light.

The lighthouse and dwelling-house were painted during the year, and the sum f $10.50 expended for labour assisting the keeper.

Fort Folly.

A new derrick was erected at this station at a cost of $13.50.

Grand Harbour.

The abutment carried away by the sea was repaired by Mr. D. H. Daggett at a ost of $55.

Green Head.

The skeleton lighthouse tower at Green Head, on the St. John River, having een found to be in very bad order, has been condemned, and tenders will be invited uring the coming winter for the erection of a new enclosed building to replace it.

Grindstone Island.

The improvements indicated in last year's report have been carried out at this tation. The lighthouse has been moved close to the keeper's dwelling and a new og alarm building erected on the extreme south-west point of the island, in which as been placed a Neptune fog horn machine complete. The building was erected nder contract by Isaac C. Prescott, whose contract price was $1,235. The work as been reported complete, but not yet taken off the contractor's hands.

Head Harbour.

A new boiler was supplied to the fog alarm by Mr. James Fleming, at a cost f $505.

Machias Seal Island Light and Fog Alarm.

The rail track has been partially renewed, and a reservoir erected under the welling-house.

Middle Island Light.

A new 14-foot boat was supplied the keeper for the use of this station, at a cost f $31.50. The two chimney tops have been taken down for repair.

Mark's Point Light.

New stringers were directed to be placed and the stone piers repaired.

McMann's Point.

This lighthouse has been removed back owing to the water, during the freshets, urrounding the tower. The building was painted and is now in good order.

Mulholland Point Light.

This station was visited on the 2nd August, 1892. The sum of $9 was paid to ohn McLaughlin for six days labour for repairing doors, etc.

Negro Town Point Light.

The base stones were strengthened and the tower better secured to them. Mr. James Carleton made the necessary repairs. A new boat was supplied to the keeper at a cost of $35. A set of mooring buoys was placed at a cost of $33.

Oromocto.

The skeleton frame supporting a lantern at this place having been reported rotten, it has been decided to erect an enclosed tower to replace it, and advantage will be taken of the change of building to place the light closer to the water's edge so as to increase its utility. Tenders will be invited during the coming winter for the necessary building.

Partridge Island Light and Alarm.

The sum of $12 was expended on the road, and the sum of $199.09 was expended by Mr. James Wilson, the engineer, in repairs to the dwelling house. A set of furnace bars was put in one of the boilers, and the boiler put in good state of repair at a cost of $215.

Pokemouche Light.

The sum of $15 was paid to Mr. Michael Hayden for rebuilding the tramway carried away by the sea; a new boat was supplied at a cost of $25.

Point Lepreaux Light.

The derrick which had become rotten was partly renewed this summer.

Point Lepreaux Fog Alarm.

The sum of $13.75 was expended for repairing the drain. A new set of grate bars was also supplied for the boiler at a cost of $43.60, also a smokestack costing $26.75.

Preston Beach Light.

The sum of $15.53 was expended in repairing the lantern at this station.

Petit Rocher.

Mr. Hilarion Roy built 96 feet of breakwater at a cost of $96.

Pokesudie Light.

The sum of $15 was paid for surveying land.

Montgomery Island Light.

Roof of the building repaired.

Pointe du Chêne Light.

The sum of $12.40 was expended in repairing the lantern.

Southern Wolf Light.

The sum of $94.45 was paid for lumber, and $15 to Geo. Dunbay for six days carpenter's work; also the sum of $60 was paid to Sydney Munroe for 40 days labour. $24 was paid to Ezra Munroe for boarding the men while making the repairs to the landing which had been injured by storm.

Tracadie Light.

The sum of $20 was paid Mr. G. C. Archer, for extending the platform. A boat was supplied the keeper at a cost of $30.

Washademoak Lights.

The two small beacon light buildings on Musquash Island and Hendry's Point have become very much dilapidated, and as they are of a poor type and it would cost nearly as much to repair them as to erect new buildings, plans and specifications were prepared for an improved type of building, and tenders have been received therefor. A contract has now been entered into with the lowest tenderer, Mr. John A. Jones, to erect two new buildings for the sum of $675.

The inspection of lighthouses and fog alarm stations has not been completed in the New Brunswick district, and therefore no report in connection with the unvisited stations will appear till next year.

BUOYS AND BEACONS.

Most of the buoys under this agency have been well maintained during the year.

Four new automatic buoys have been supplied to this agency; two were made by Mr. James Fleming, and two by Mr. W. G. Matheson, under contract. Two new bells for bell-buoys were supplied by the Blake Bell Company at 25½ cents per lb. The McShane Bell Foundry also supplied three bells at 22 cents per lb.

Bell-buoy boat, St John Harbour.

The following repairs were made to the bell-boat during the year. Several patches were put on both sides under the guards, well fastened with screw bolts, and heavy birch guards were put on each side from stem to stern, which will be a great protection to the boat in case of collision, as well as strengthening the hull. The inside deck was coated with cement, all the seams caulked and new rivets were put in where required, which will make this valuable buoy serviceable for many years. A new gong was supplied by Messrs. T. McAvity & Sons, at a cost of $188; the old one was broken.

Black Point Automatic Buoy.

This buoy is kept in good working order. No repairs were made to it during the year.

Blonde Rock Automatic Buoy.

This buoy broke from its moorings in December last and was replaced on June 3rd with new chain and a 5,000 pound granite rock anchor. On the 16th September, 1892, information was received that the buoy had again disappeared; the "Lansdowne" being in port, was immediately dispatched to look after the buoy. It was secured and taken to St. John and another put in its place.

Chebogue Ledge Buoy.

This buoy broke from its moorings and was picked up by Mr. A. L. Robbins, and brought to Yarmouth. The sum of $12 was paid for salvage and $20 for repairing the same. The buoy was replaced on the 11th June, 1892, with a new set of moorings, at a cost of $88.13.

Point Lepreaux Automatic Buoy.

This buoy was sunk at its moorings in March last, and replaced by another on the 21st May last. In grappling for the buoy off Point Lepreaux, two old sets of moorings were recovered. The moorings were also recovered that were attached to the buoy.

North-West Ledge Bell Buoy.

This buoy broke from its moorings and was picked up by the schooner "Willie" and towed into Westport, for which the salvors claimed $140. The department considered this charge too high and offered to pay $70, that is $35 for the schooner and $35 for others assisting; this offer has been accepted.

Another bell-buoy was moored there on the 2nd June last and the former buoy was brought to St. John for repairs.

Old Man Ledge Buoy.

The spar buoy heretofore marking the ledge was removed and an iron can buoy, painted black moored in its place, one-eighth of a mile south-east of the rock, in five fathoms of water.

Split Rock Automatic Buoy.

This buoy sunk at its moorings, and the ss. "Newfield" placed another buoy last fall in the same position. The "Lansdowne" recovered the old buoy and moorings in June last.

Lurcher Buoy.

This buoy went adrift and was secured by the tug boat "Cawn" and towed into Yarmouth Harbour. It was fitted out with new chain, granite rock anchor, and replaced by the ss. "Lansdowne." It afterwards broke adrift and landed about 3 miles south of Cape St. Mary's light, and during a heavy storm it was carried out to sea and sunk.

The 10-inch whistle was removed from it and taken to St. John; Capt. Dakin made search for the buoy, but was not successful in finding it.

PRINCE EDWARD ISLAND DIVISION.

This division is under the the charge of Mr. Artemas Lord, agent of the department at Charlottetown.

In it there are 52 lights at 34 stations and 1 steam fog-horn, under the charge of 40 keepers. There are two automatic whistling buoys and one bell-buoy in this agency. The majority of the lights are situated on headlands and serve the general purposes of navigation, the remainder being harbour lights intended particularly for the benefit of fishermen. Thirty-five harbours in this province are buoyed by the department under contract; the buoys being under the general supervision of the agent.

The lights were as usual inspected during the summer season by the agent in the Government schooner "Prince Edward" which also delivered the lighthouse supplies. The agent reports a continuous and increasing endeavour on the part of the light-keepers to keep up the required efficiency.

REPAIRS AND IMPROVEMENTS TO LIGHT STATIONS.

The following is a statement of the more extensive repairs and improvements made at the several stations during the past year.

Inner Range, Miminigash.

Foundation posts re-sunk and ballasted at a cost of $9.75.

Fish Island Light.

New cellar hatch and storm door.

Darnley Range.

Foundation posts reset and floors planked and ballasted. Diamond beacons from Brighton Beach range, erected at back of masts and securely bolted and stayed with steel wire rope, so as to make the masts more conspicuous in daylight.

New London Range and Main Tower.

Stone was placed around them to gather the sand on the beach and keep the sea from working under the main tower. Cost about $30.

North Rustico.

Post foundation having become unsafe, temporary posts were put under for the present at a cost of $8.00.

Indian Point Light.

The breakwater at this light has received repairs. Piles were driven and the corners secured by iron straps and bolting at a cost of $353.61.

West Point Light.

A portion of the building was found to be rotten. New sills, beams, knees, studding and sheathing were necessary and the work was done at a cost of $402.47.

Sea Cow Head.

The roof of wood shed was raised; this roof was shingled as well as the roof of the cottage. A new floor was laid in the kitchen, the south sill replaced and the foundation wall repaired. The lighthouse lantern was overhauled and glass refitted. The cost of the whole work being $183.07.

Brighton Range Lights.

Skeleton towers were erected to take the place of the diamond beacons; the beacons were not considered suitable as day marks and tenders were invited for the construction of two towers. The work as done by contract by Mr. James Hanrahan cost $383.90 and was completed in August last. The towers stand on the sites of the old masts and have the sides facing the alignment closely slatted so as to make conspicuous day beacons. The upper parts of the towers are enclosed and surmounted by wooden lanterns. The towers are painted white, with the lanterns brown. The front tower is 40 feet high and the light 41 feet above high water mark. The back tower is 50 feet high and the light 77 feet above high water mark. The illuminating apparatus is catoptric.

East Point Fog-alarm.

The buildings were repaired and painted. The fog alarm machine and boiler were also repaired.

Tryon Shoal Whistling-buoy.

An automatic whistling buoy, painted brown, with the words "Tryon Shoal Buoy" in white letters, was moored last summer off the southern extremity of Tryon Shoal, in Northumberland Strait, south-west coast of Prince Edward Island. The buoy is moored in 5½ fathoms of water, and should be left on the starboard in going up the Strait to the north-westward, and on the port hand going down.

BRITISH COLUMBIA LIGHTHOUSE DIVISION.

This division comprises all Canadian waters on the Pacific Coast, and is under the charge of Capt. James Gaudin, agent of the department at Victoria, who was appointed on 1st October, 1892, in place of Mr. H. G. Lewis, who retired.

There are in this Province thirteen light stations, at four of which are steam fog-alarms, and at four others, bells rung by machinery. There are also four lighted buoys, at two stations. The above are in charge of fifteen keepers, some of whom supply assistants out of the salaries allowed.

Race Rocks.

New approaches and planks have been laid by the keeper; a new boiler was set up last November by the crew of the "Douglass;" two new iron tanks were substituted for the large stone cistern, demolished to make room for the duplicate boiler which has recently come to hand, and which will be set up and connected for use in case of accident to the first boiler. This boiler was made by the Wm. Hamilton Manufacturing Company, of Peterboro, Ont., the lowest tenderers, their price being $925 for the boiler delivered at Vancouver.

Cape Beale.

A new deck has been laid on the top of the tower, and the tramway has been repaired; the trail to Bamfield Creek has been cleared; the repairs to the light were executed by Mr. Grant, engineer of the "Quadra."

Carmanah.

A steam winch has been supplied for hoisting supplies to the tower and fog alarm. A ram was put in position to convey water to the building.

Fisgard.

Dwelling painted, landing restored. A new boat has been supplied.

Active Pass.

As indicated in last year's report it is proposed to replace the fog-bell at this station by a steam fog-horn. Machinery in duplicate has been forwarded to the station and tenders have been invited for the necessary building to contain the same, and for a large covered tank to ensure a constant supply of water.

Entrance Island.

The land recently purchased for this station from Mr. Mawdesley, has been neatly fenced in and the fence painted.

The catoptric light formerly shown from this lighthouse was last summer replaced by a fifth order, dioptric, fixed white light, with a red sector.

The light shows fixed white or bright from all points seaward, except through an arc of $7\frac{1}{2}$ degrees, between the bearings of W. and W. $\frac{2}{3}$ N., which is covered by a sector of red light shown over Gabriola Reef. On the last named bearing, and from points to the southward of it, the light is obscured by Flat Top Islands and Gabriola Island. The red light is intended as a guide to vessels coming from the southward, which, when near Gabriola Reef should not alter their course to the westward until the light changes from red to white. The light will change when bearing west, this bearing clearing Gabriola Reef buoy, moored one cable north-east of Thrasher Rock, half a mile to the northward.

Sand Heads.

A new ladder for the S.E. side of the lighthouse and a new boat and davits were supplied.

Point Atkinson.

Since last year new steps leading to the lighthouse have been built.

Brockton Point.

The tower has been removed across the road on account of the caving in of the point on which it was situated; a shed was also built to protect the keeper from the weather whilst he attends to his duty.

Yellow Island.

A new boat has been supplied.

BUOYS.

Nanaimo Buoys.

These buoys with their moorings were overhauled, cleaned and painted in May. No. 5 is rotten and water-logged. Lights are exhibited on Nos. 2 and 7. Two new iron buoys are being built under contract for this harbour at a cost of $372 each.

Victoria Buoys.

These buoys (wooden cage) give good satisfaction; lights are exhibited on Shoal Point and Pin Rock buoys.

Esquimalt Buoys.

Two in number, one spar and one small, conical iron buoy, are in good condition, and were relieved last May. The beacons were cleaned and painted at the same time.

Inner Channel.

One spar buoy has been moored on the 3 fms. patch Haro Straits; 1 slight spar buoy, Mill Creek, Cowichan Bay, 1 spar buoy off Shoal Islands, Satellite Channel, 1 spar buoy in Houston Channel.

Somas River.

These buoys, six in number, have been relieved and are in good condition.

False Narrows.

This Narrows has been rebuoyed with seven new spar buoys.

Gabriola Reef.

This buoy has not yet been relieved but will be overhauled as soon as convenient.

Rosenfelt Rock.

This buoy was relieved in April last year and is in good condition.

Point Grey.

This buoy as well as that on Spanish Bank was overhauled and replaced in May last.

Bayne's Sound.

These buoys and beacons are in good condition and were cleaned and painted last Spring.

Sand Heads.

These buoys are attended to by the "Samson" and are in good condition.

North Arm.

New spar buoys and beacons (pile) have been recently placed in the North Arm Fraser River.

Northern Buoys.

These buoys have not yet been attended to this year. It has been reported that some of the Metlahcatlah buoys have gone adrift.

Steps are now being taken to secure a supply of spare steel buoys for this province, to replace promptly any that may become unserviceable, and also to replace the present unwieldy wooden can buoys by steel buoys.

BEACONS.

Two new pile beacons have replaced the ones carried away last winter on Sturgeon Bank.

The stone beacon which it was proposed to erect on Kelp Reefs, and the stone beacon surmounted by an electric light, which it was proposed to erect on Broschie ledge last summer, were not built in consequence of the accident to the steamer "Quadra" depriving the agency of her services during the lowest spring tides.

Bell-buoy.

An automatic bell-buoy was moored off the entrance to the Sand Heads in March, 1892, and is of great assistance in making the entrance in thick weather, and as an aid in the navigation of the Gulf of Georgia.

CHANGES IN LIGHT-KEEPERS.

The following changes in the List of Light-keepers appointed throughout the Dominion have taken place during the year 1892, up to date of this report:—

Name of Keeper.	Name of Station.	Date of Appointment by Order in Council.	Salary per annum.	Remarks.
		1890.	$	
John MacKillop	Campbell's Island	April 2	150	Re-appointed.
John MacIntosh	Arnprior Island	do 2	150	do
Félix Bertrand	Spence's Island, Lower Allumette Lake	do 2	100	do
Alex. Milligan	Barriefield Range Lights	do 25	150	New light.
William Craig	Thunder Cape	May 17	600	Succeeded S. B. Richmond, resigned.
John J. Munroe	Lancaster Bar	June 8	250	Succeeded Geo. H. Johnson, superannuated.
Hilaire Boucher	McTavish Point	do 8	100	Succeeded Jos. Geegan, resigned.
Donald MacKillop	St. Anicet Shoal	do 8	230	New light.
Octave Beaulieu	Point à Cadieux	July 26	150	Succeeded Félix Valois, superannuated.
Sandford Davis	Gananoque Narrows	do 26	480	Succeeded J. H. Davis, resigned.
QUEBEC DIVISION.				
Elzéar Arcand	Cap de la Madeleine	May 17	80	Succeeded Z. Toupin, superseded.
Eph. Trottier	Grondines	do 17	100	Succeeded Louis Boisvert, resigned
Placide Vigneau	Perroquet Island	Sept. 19	600	Succeeded C. E. Forgues, drowned.
L. P. Carignan	Main Light, Champlain	Oct. 1	80	Succeeded L. Hardy, resigned.
Herbert Pope	Anticosti, South-West Point	do 22	520	Succeeded E. Pope, superannuated.
E. Fontaine	Cape Bauld	Nov. 1	800	Succeeded Alex. St. Laurent, resigned.
NEW BRUNSWICK DIVISION.				
Kenneth McLennan	Escuminac	Mar. 7	750	Succeeded Jas. Carter, superseded.
Fred. M. Cochran	St. Martin's Wharf	do 25	100	Succeeded J. R. Cochran, deceased.
John C. Conley	Beaver Harbour	April 2	250	Succeeded E. D. Snell, deceased.
Edward Egan	Bellonie's Point	May 17	100	Succeeded R. Buttimer, deceased.
Peter Morrison, jr	Portage Island	do 17	200	Succeeded Jas. Stymest, superannuated.
Ambrose D. Case	Hendry Farm	Nov. 1	80	Succeeded C. K. Leonard, left locality.
NOVA SCOTIA DIVISION.				
Simon W. Riley	Annapolis Royal	Mar. 7	100	Succeeded M. Riordan, deceased.
Wm. H. Burns	Wedge Island	April 2	400	Succeeded Ed. Burns, deceased.
Donald McDonald	Clarke's Harbour Pole Light	do 25	50	New light.
Donald Smith	Ingonish	do 25	300	Succeeded L. McDougall, superannated.
Donald McRae	Kidston's Island	May 17	200	Succeeded Duncan McRae, resigned.
Malcolm D. Morrison	Black Rock Point	June 8	250	Succeeded A. F. Morrison, superseded.
James Mullins	Mullins' Point	do 8	250	Succeeded Z. Mullins, deceased.
Andrew McFarlane	Pictou Island	do 8	400	Succeeded J. W. Hogg, resigned.
A. McPherson	Port Mouton	do 8	300	Temporary. Succeeded E. McPherson, drowned.
Watson Burgess	Port Hébert	July 26	150	Succeeded J. H. McDonald, resigned.

NOVA SCOTIA DIVISION—*Concluded.*

Name of Keeper.	Name of Station.	Date of Appointment by Order in Council.	Salary per annum.	Remarks.
		1890.	$	
John McDonald ...	Scatterie..	July 26..	800	Temporary. Succeeded J. W. Brown, superannuated.
John McDonald	Little Narrows	Aug. 20..	120	Temporary. Succeeded John Ferguson, deceased.
Israel C. Foster.....	Port Medway	Oct. 13..	260	Succeeded E. Perry, superseded.
Théodore Sampson..	South Beaver Island	do 13..	80	Succeeded J. D. Corbett, in bad health.
Patrick Cummins....	Little Hope Island	do 22..	500	Succeeded A. MacDonald, resigned.
Jos. E. McNeil.....	Jérôme Point	Nov. 1..	250	Succeeded J. D. Matheson, appointed to another position.

PRINCE EDWARD ISLAND DIVISION.

Wm. P. Callaghan..	Rix Point, Miminigash	Jan. 5..	60	Succeeded John Mockler, left locality.

BRITISH COLUMBIA DIVISION.

Hamilton Armour...	Sand Heads	Aug. 27..	900	Succeeded R. S. Jones, superseded.

BUOYS AND BEACONS.

There are about 300 harbours, bays and sections of rivers buoyed in the Dominion of Canada. In most cases contracts have been entered into to maintain the buoy service for a period of three years. In some few instances the buoys are placed by the Harbour Masters who furnish accounts to the department for the work done and material supplied.

The expenditure in connection with the buoy service for the year ended 30th June, 1892, was as follows:—

For the Province of Quebec, including the Port of Montreal	$24,133 86
Above Montreal, including Ontario	5,403 25
New Brunswick	14,461 04
Nova Scotia	13,070 74
Prince Edward Island	3,224 23
British Columbia	4,391 32
	$64,684 44

This includes the expenditure incurred in the construction of new automatic buoys and maintaining all the buoys of this character.

OILS FOR THE USE OF LIGHTHOUSES.

The oil for lighthouse purposes has been purchased from the Imperial Oil Company of Petrolia, by contract, which extended over a period of three years. The contract has terminated, and tenders will be invited for the supply of oil for next year.

The quantity of oil supplied to the lights above Montreal by the Imperial Oil Company during the past fiscal year was 21,895 gallons, imperial measure, costing $4,046.86; to the lights in the Quebec district, 25,485 gallons, costing $4,883.70; to the Nova Scotia district, 35,000 gallons, costing $8,386.40; to the New Brunswick district, 13,978 gallons, at a cost of $3,160.47; to the Prince Edward Island district, 5,816 gallons, at a cost of $1,388.57, making the total quantity received from the Imperial Oil Company, 109,174 gallons, and the total cost $21,866. In addition to this, the department purchased from the Standard Oil Company, New York, 2,500 gallons of American oil, for the New Brunswick district, at a cost of $453.71; 7,700 gallons for the Nova Scotia district, at a cost of $1,397.44, and 1,600 gallons for the district above Montreal, at a cost of $288; for the British Columbia district, 4,500 gallons, at a cost of $883.75. The total quantity of American oil purchased was 16,300 gallons, wine measure, costing $3.022.90.

The list below contains the contract prices paid for oil purchased from the Imperial Oil Company, of Petrolia, for the last three years, and delivered at the following places, viz.:—

Delivered at	Per gallon in barrels. Cents.	Per gallon in cases. Cents.
Sarnia	15½	21
Hamilton	17⅛	22⅝
Kingston	18⅝	23⅓
Montreal	18⅜	23⅞
Quebec	19	24
St. John, N. B.	19½	24½
Pictou, N. S.	20	25
Halifax	19½	24½
Charlottetown, P.E.I.	20½	25½

DOMINION STEAMERS.

"NEWFIELD."

The steamer "Newfield" was engaged in delivering supplies at Sable Island, in buoy service and lighthouse service from the 1st January, 1892, to the 9th February, when she was laid up, and the crew paid off. This steamer was again put in commission on the 12th April, 1892, when the crew was shipped and her regular work began of supplying lighthouses and fog-alarms with coal and other supplies; also of placing buoys. Cape Race, Newfoundland, lighthouse was visited and supplies landed. Application was made by the Relief Committee formed in Halifax, for the use of the steamer "Newfield" to carry supplies to the people of St. Johns, Nfld., who were sufferers by the disastrous fire which occurred in July last. On the 20th July the steamer began to load a general cargo of provisions for Newfoundland, under the direction of the St. Johns Relief Committee; reached destination on the 25th July, discharged and left on the 27th for Nova Scotia where she was again engaged in attending to lighthouse and automatic buoy service. On the middle of August last the steamer while off North Canso Light, was found to be dragging her anchor and although the engines were set full speed astern, the vessel stranded. The officers of the department at Halifax were instructed to proceed with necessary

materials, etc., to North Canso to save the steamer, and the steamers "La Canadienne" and "Stanley" were ordered to the place for the purpose of drawing her off. This was accomplished on the 30th of August and the vessel successfully floated; she was then taken to Port Hawkesbury and placed upon the slip. The steamboat and hull inspectors for the Maritime Provinces inspected the steamer and found that she was seriously damaged. Tenders were invited for repairs, the lowest tender received being from Mr. Samuel M. Brookfield who has removed the "Newfield" from Port Hawkesbury to Halifax, where she is now undergoing repairs under a contract. The "La Canadienne" and "Lansdowne" are now engaged in attending to Lighthouse and Buoy Service in the Nova Scotia district in the place of the "Newfield."

"LANSDOWNE."

The steamer "Lansdowne" was employed from the 10th January, 1892, in lighthouse and buoy service in the province of New Brunswick, till the 6th February when she went into winter quarters. The following repairs were made on the vessel's hull preparatory to going into the service for 1892.

In addition to the carpenter work, the engine and machinery received a thorough overhauling and the addition of a large new steam power discharge pump extending by pipes to different parts of the ship.

The bottom was caulked and painted, the cabin and charthouse were painted by the painter, and the top sides of the hull were painted by the crew before going to sea.

The old apron and second apron or dead wood has been taken out and replaced with new, and thoroughly fastened.

On the port side there was put in a new knighthead, 31 strakes of plank extending back from the stem 34 feet, one piece of rail moulding and one piece of plank-sheer, 7 strakes of bulwarks extending back from stem 10 feet, 13 strakes of sheathing from 15 to 50 feet long, and the hawse pipe was refitted and well fastened.

On the starboard side, there was put in a new knighthead 12 timbers, 26 strakes of plank extending back from the stem 50 feet, 20 feet of rail moulding, 40 feet of plank-sheer, 7 strakes of bulwarks extending back from stem 26 feet, 6 strakes of sheathing from 20 to 40 feet long, new bill-boards and new hawse pipe.

Iron plates on both sides of bow were replaced and fastened; all new work was well caulked with ten good threads; also a new gripe was put on which was well plated with iron on front and sides.

The sheathing was all caulked and also the buts in top sides and deck.

The ship was well salted wherever possible and well painted with copper paint where sheathed, and black paint above.

The cost of repairs up to the 30th of June was $6,513.35. The "Lansdowne" was put in commission on the 21st of May and was employed in recovering some automatic buoys. When this was done she entered on the general work of supplying the lighthouses and attending to the buoy service in the province of New Brunswick, and was engaged in this division until the 9th of August, when she was employed in the buoy service in the Bay of Fundy. She was engaged in the Nova Scotia division in conveying coal and supplies to the lighthouses and fog-alarms and was still doing this work at the time that this report was being prepared.

"STANLEY."

The "Stanley" began her winter trips according to advertisement, on the 1st of December, 1891, and continued to run between Charlottetown and Pictou till the 15th of January, when the route was changed to Georgetown and Pictou. The Charlottetown route was resumed on the 23rd January, but the vessel continued for two days only. The Pictou and Georgetown route was resumed until the 25th of March when the vessel was put on between Pictou and Charlottetown and continued plying between those two ports till the 18th of April, when the winter season closed. The season was unusually mild, and not much interruption of the trips was caused by ice as in former years. The vessel was, however, caught in the ice on the 2nd of March and remained until the 6th of the same month, when she arrived at Pictou. The boilers were emptied at Georgetown on the 8th March for the purpose of cleaning them; this work was completed on the 13th of the same month, the boilers refilled, and the steamer resumed her trips. The number of passengers carried during the winter season, was 1,276, and the receipts arising therefrom, including berths and meals, amounted to $4,092.50. The sum received on account of freight was $2,385.10, making a total received from passengers and the carrying of freight of $6,477.60. The cost of maintaining the boat for the fiscal year was $14,586.90. On the 18th of April, the steamer went to Pictou for repairs, and was put upon the slip remaining in the harbour of Pictou until the 15th of June, when she was put in commission in connection with the fishery protection service and continued in that service until the 8th of October, when the crew was paid off.

"ALERT."

The "Alert was put in commission on the 15th of April, 1892, and was engaged in mooring gas buoys and the inspection of the same. On the 9th of June she left Quebec with stores and lighthouse supplies and for the purpose of inspecting the lights. Reference has already been made to this work in the part of the report relating to the inspection of lights in the Quebec district. The "Alert" returned to Quebec on the 30th of June, and was employed in connection with buoy service up to the 16th of July, when she took on board a full cargo of provisions, oil and general stores, to supply the lights in the Gulf of St. Lawrence, and returned on the 22nd of August. She was then put in the graving dock at Quebec and 16 days were occupied in making repairs. She was again employed in connection with replacing gas buoys which had moved from their proper position, and on the 29th of September, she left Quebec with a full cargo of general supplies for lights in the Gulf of St. Lawrence and is now engaged in the work of delivering these supplies at the different light stations.

"DRUID."

By reference to the report of last year, it will be seen that the department decided to dispose of this steamer rather than cause an outlay of from $6,000 to $8,000 to put the steamer in an efficient condition for lighthouse and buoy service. Tenders were accordingly invited up to the 5th of February, 1892, for the purchase of the "Druid"; five tenders were received, but they were so low and apparently out of proportion to the value of the steamer, that the department decided not to accept any of the offers. The "Druid" was placed in commission on the 1st September,

in connection with the quarantine service, and was fitted out for the purpose of conveying fumigating apparatus from Quebec to Grosse Isle. Since the 8th of September she has been under the control of Dr. Montizambert, in connection with quarantine service, but has been manned and supplied by the Department of Marine and Fisheries.

"QUADRA."

By reference to the report of last year, it will be seen that the new ss. "Quadra" built for the Department of Marine and Fisheries in Paisley, Scotland, arrived at Victoria, British Columbia, in January of this year. She was commissioned in the British Columbia district on the 15th of March, 1892, for the general work of the department and proved very successful, being well adapted for the lighthouse and coast service. On the 9th of May, the "Quadra" left Victoria on a special trip to the Pribyloff Islands. On the morning of the 14th the master decided to run into Rose Harbour to secure fresh water and for other purposes. In order to reach the harbour it was necessary to pass through the Houston-Stewart Channel which is marked in all charts of the locality as a good safe passage. At about six in the morning she struck on a rock situated nearly in the centre of the channel between Ellen and Ross Islands. The shoal consists of a patch 120 yards long by 60 yards wide with 6 feet of water at low spring tide, but the rise of tide gives a depth of from 16 to 20 feet. The Admiralty plan of Houston-Stewart Channel on the chart is merely a rough sketch; none of the points or islands being correctly placed. The steamer was immediately beached in order to keep her from sinking in deep water. The steamer "Mascotte" was engaged at Victoria at $100 per day with appliances on board to proceed to the wrecked steamer for the purpose of raising her. This was successfully done and the "Quadra" was taken to Victoria, where she was docked on the 24th June. Tenders were then invited for repairs to the steamer. The lowest tender was accepted, viz: that of the Albion Iron Works of Victoria, offering to do the work for $16,980, in 30 days. The work of repairs to the "Quadra" was so far completed that she was able to leave the dock on the 17th of August last. Her work of supplying the lighthouses and the buoy service was resumed on the 20th of August, in which work she has been engaged up to the present time with the exception of three days that were required to replace the reversing quadrant which was accidentally broken.

Captain John Devereux and Captain Herbert G. Lewis were appointed commissioners on 6th June, 1892, by Order in Council, to investigate the cause of the disaster to the "Quadra." The commissioners reported, separately, that Captain Gaudin, who was in charge of the steamer was exercising all due and proper precautions known to skilful navigators at the time of the casualty, and they exonerated him from all blame in the matter.

"SIR JAMES DOUGLAS."

The "Sir James Douglass" was commissioned on the 20th of June; some days were spent in fitting her up to take the place of the "Quadra" for supplying lighthouses and performing other services. She left Victoria on the 13th of June with lighthouse supplies and for the purpose of visiting stations for inspection. The "Douglass" returned to Victoria on the 12th of July and left again on the 14th with supplies, to continue the trip of inspection and delivering the necessary stores

to lighthouses. This trip was completed and she returned to Victoria on the 22nd of July; again leaving that port on the 27th to attend to lighthouse service and buoys. This trip was completed and the vessel returned to Victoria on the 3rd of August. A supply of lighthouse stores for the west coast was taken on board and the vessel proceeded in connection with the service on the 9th of August, continuing in this work till the 19th when she again returned to Victoria and was put out of commission.

"BAYFIELD."

The "Bayfield" is a wooden steamer of 150 tons gross and 90 tons register, is 30 years old, and is employed for the purpose of the hydrographic survey of the Georgian Bay. This vessel left Owen Sound 4th May to continue the survey, and was employed at that work till the 18th of October, 1892.

The following statement shows the expenditure for maintenance and repairs of each steamer, and the receipts for the fiscal year ended 30th June, 1892:—

——	Repairs.	Maintenance.	Total.	Receipts.
	$ cts.	$ cts.	$ cts.	$ cts.
"Newfield"	1,684 40	15,648 01	17,332 41	2,400 00
"Stanley"	21,155 46	14,586 90	35,742 36	6,477 60
"Lansdowne"	7,288 78	15,093 79	22,383 57	.....
"Quadra"	1,134 13	17,103 06	18,237 19	.....
"Alert"	2,389 13	13,053 47	15,542 60	.....
"Druid"	940 21	8,080 46	9,020 67	.....
"Sir James Douglass"	163 07	7,215 24	7,378 31	.....
"La Canadienne"	864 52	679 37	1,543 89	.....
	35,619 70	91,560 30	127,181 00	8,877 60

Expenditure	$127,181 00	
Receipts	8,877 60	
	$118,303 40	
Parliamentary grant		$128,000.

The system of provisioning the Dominion steamers during the past year has been by inviting tenders for all kinds of supplies such as groceries, meat, bread, etc. In future, it is the intention of the department to invite tenders only for staple articles of which large quantities may be required. Tenders were received in Halifax for the "Newfield," in St. John, N.B., for the "Lansdowne;" in Charlottetown, Georgetown and Pictou for the "Stanley;" in Victoria, B.C., for the "Sir James Douglass" and "Quadra," and in Quebec for the "Alert," "Druid" and "Dolphin" the last being the Harbour Police Boat.

COST OF MAINTAINING LIGHTHOUSES AND DOMINION STEAMERS.

The following comparative statement shows the expenditure on account of maintenance of lighthouses, steam fog-whistles, and steam fog-horns for the years 1883-84 to 1891-92, both inclusive. The method of auditing all accounts in the department before payment has been followed of late years:—

Year.	No. of Lighthouses.	No. of Fog-Whistles.	No. of Fog-Horns.	Cost of Maintenance.
				$ cts.
1883-84	597	23	10	456,868 33
1884-85	617	23	12	478,064 04
1885-86	625	23	16	505,929 27
1886-87	658	23	24	476,514 44
1887-88	664	23	27	464,471 76
1888-89	675	24	29	459,423 80
1889-90	705	23	32	434,802 10
1890-91	710	23	31	455,254 42
1891-92				445,140 16

STATEMENT showing cost of maintaining Dominion steamers from 1884 to 1892.

Year.	Cost of Maintenance.
	$ cts.
1883-84	123,816 25
1884-85	148,864 26
1885-86	130,759 83
1886-87	141,424 42
1887-88	150,659 19
1888-89	126,629 33
1889-90	114,959 20
1890-91	111,437 03
1891-92	127,406 28

HARBOUR POLICE.

The force at Quebec which is under the charge of Mr. J. U. Gregory consisted of 18 men in 1891 and 16 men in 1892. The work of the force is confined strictly to shipping, in the Harbour of Quebec, under rules framed for their guidance. The number of arrests for the season of 1892 up to date, was 57. This year's number is larger than that of the previous year owing to the increase in the number of vessels entering Quebec. The principal work of the force has been to arrest deserters, men who refuse to do their work on board ships, men who are absent without leave from their ship and to arrest sailors for assaulting their officers and for mutiny. Crimps entice the men who are articled for round trips and the services of the harbour police have been principally required to prevent desertions under these and similar circumstances.

The steam launch "Dolphin" is employed for harbour police purposes. The receipts and expenditure on account of this service during the past 23 years are as follows:—

	Receipts.	Expenditure.
	$ cts.	$ cts.
For the fiscal year ended 30th June, 1870	23,996 68	18,461 83
do do 1871	21,235 06	17,400 73
do do 1872	27,215 80	20,348 00
do do 1873	26,618 50	32,653 87
do do 1874	28,650 39	38,897 52
do do 1875	25,620 09	37,895 00
do do 1876	26,499 09	41,222 68
do do 1877	28,598 10	35,006 37
do do 1878	26,702 43	37,560 14
do do 1879	21,464 97	38,486 50
do do 1880	21,510 15	35,225 54
do do 1881	27,375 09	35,451 07
do do 1882	21,420 33	42,316 56
do do 1883	28,060 02	38,318 65
do do 1884	28,497 25	41,980 72
do do 1885	20,698 79	38,082 92
do do 1886	24,089 97	43,916 57
do do 1887	22,934 49	40,340 12
do do 1888	21,072 73	37,279 52
do do 1889	19,688 27	31,647 50
do do 1890	17,816 95	21,787 61
do do 1891	7,649 19	7,873 65
do do 1892	8,714 79	6,161 60
	526,128 13	738,314 67
Deduct receipts from expenditure		526,128 13
Excess of expenditure over receipts		212,186 54

The report of the Superintendent of Police will appear as an appendix to this report.

As vessels bound to Montreal do not pay river police dues at Quebec, these dues being paid only by vessels remaining in Quebec to discharge or load cargoes, it has been suggested that the vessels remaining in Quebec should not be taxed for this service when vessels proceeding to Montreal are free. From enquiries made by the department, it appears that owners of many of the vessels frequenting Quebec would be pleased if this tax were abolished, as they do not consider they derive sufficient benefit from the harbour police force to compensate them for the amount of dues paid, which are at the rate of three cents per ton, not exceeding two payments a year.

ICE-BOAT MAIL SERVICE.

This service began on the 24th February, 1892, and was continued up to 31st March, when the steamship "Stanley" was making regular trips, except when actually required only four boats were employed, which were manned by six men each. An extra boat and crew were put on when found necessary.

A total of 59 crossings were made, which seem few compared with the last winter's report, but this year the work did not commence until nearly two months later, owing to the mildness of the winter.

One thousand seven hundred and forty-nine bags of mail were carried, and 94 passengers, with their baggage, taken over. Total weight carried about 52,000 lbs.

The earnings of the service, irrespective of carrying the mails, amounted to $259.07, and the cost of maintenance for the fiscal year, $3,309.44.

Plans and specifications for a boathouse at Tormentine are in preparation to accommodate the ice-boats and a life-boat for that station, but arrangements have not yet been made to build.

Further details of the working of the ice-boat service were given in the twenty-fourth annual report.

SICK AND DISTRESSED MARINERS.

Under the provisions of Chap. 76, Revised Statutes, a duty of two cents per ton register is levied on every vessel arriving in any port in the Province of Quebec, Nova Scotia, New Brunswick, Prince Edward Island and British Columbia, the money thus collected forming "The Sick Mariners Fund." Vessels of the burden of 100 tons and less, pay the duty once in each calendar year, and vessels of more than 100 tons three times in each year.

By an amendment to this Act passed at the Session of Parliament in 1886, 50-51 Vic. chap. 40, it is provided that no vessel which is not registered in Canada and which is employed exclusively in fishing or on a fishing voyage, shall be subject to the payment of this duty.

The receipts for the fiscal year ended 30th June last amounted to $45,381.92, being an increase of $1,550.94 as compared with the preceding year. The increase, or decrease in receipts of sick mariners dues in the various provinces was as follows:—Quebec, increase $1,715.17; Nova Scotia, decrease $92.26; New Brunswick, decrease $400.65; Prince Edward Island, increase $27.62; British Columbia, increase $301.06.

The Sick Mariners Act does not apply to the province of Ontario and consequently no dues are collected from vessels in that province, although a small expenditure is incurred on account of sick seamen. For a number of years past a grant of $500 has been made by Parliament to the General Hospital at Kingston and a similar amount to the General Hospital at St Catharines for the care of such seamen as may receive medical attendance in them. During the fiscal year ended 30th June sick seamen were paid for at a per diem rate of 90 cents, but the amount paid to each hospital did not exceed the Parliamentary grant, viz.: $500.

In the province of Quebec the expenditure on account of sick seamen amounted to $6,587.89, being $628.56 less than the previous year. The total collections for the entire province amounted to $14,660.19, being $1,715.17 more than the previous year.

At the port of Montreal sick seamen are cared for at the General Hospital and at Notre-Dame Hospital under an arrangment made by the department by which 90 cents per diem is paid for board and medical attendance of each seamen. The number of seamen admitted to the Montreal General Hospital was 89, and the number of days during which they received treatment and board was 1,291, whilst 30 outsides patients were treated. The total cost being $1,212.90. The amount paid the Notre-Dame Hospital was $1,003.50 for the treatment of 123 sick seamen for a total number of 1,115 days.

Chicoutimi Hospital received 8 seamen to whom medical treatment and board were given, at a cost of $689.10. The sick mariners dues collected at the port of Montreal during the fiscal year ended 30th June, amounted to $4,375.92.

At the port of Quebec sick seamen were cared for at the Jeffrey Hale and the Hôtel-Dieu Hospitals, the sum of 90 cents for each seaman is allowed in return for medical attendance and board. The sum paid the Jeffrey Hale Hospital was $1,661. 10 where 158 men received treatment for a total number of 1,819 days. The sum of $546.20 was paid the Hôtel-Dieu Hospital for attending to 18 seamen, 588 days.

The expenditure on account of sick seamen in the province of New Brunswick for the fiscal year amounted to $6,021.87, being $163.88 less than the preceding year, and the collection of dues to $8,498.83, or $400.65 less than the previous year. Marine Hospitals have been maintained at St John, Miramichi, Richibucto and Bathurst.

At St. John, 152 seamen received treatment, 2,810 days, at a cost of $2,818.07.

At Miramichi, 25 seamen were admitted and received treatment, 633 days, at a cost of $1,194.13.

At Richibucto, three seamen were admitted and received treatment for 84 days. The cost of maintaining the hospital was $386.

At Bathurst, one seaman was in hospital eight days. The cost of maintaining the hospital during the year was $222.61.

The St. Andrew's Hospital is in charge of the matron, who is allowed to charge $3.00 per week for boarding sick seamen. No salaries are paid in connection with the maintenance of the hospital.

The Sackville Hospital has been leased to Mr. Bradford Carter for three years at a nominal rental. The terms of the lease require Mr. Carter to keep the buildings in repair, and if the department should require the hospital at any time, it is to be handed over on notice being given.

In the province of Nova Scotia, Marine Hospitals are maintained at the ports of Yarmouth, Pictou, Sydney, Lunenburg and Point Tupper. The total expenditure on account of sick seamen in the province of Nova Scotia for the fiscal year, amounted to $13,202.67, and the receipts to $15,296.98.

The Marine Hospital, at Yarmouth, is located on Bunker's Island; 25 seamen were admitted during the year ended 30th of June, who were treated 633 days. The expenditure for this purpose being $690.04.

At Halifax provision is made for the care of sick seamen at the Victoria General Hospital under arrangements made with the managers, by which the sum of 90 cents per diem is allowed for board and medical attendance to sick seamen. The sum paid the managers of the hospital for board and medical treatment during the past fiscal year was $4,938.40; 279 men were admitted, and the number of days for which treatment is charged is 5,451.

At Lunenburg, 36 seamen were admitted and received medical treatment, 669 days; the cost of maintaining the hospital being $803.17.

At Pictou, 17 seamen were admitted to the hospital, their total treatment being for 285 days; the sum paid in connection with maintaining the hospital was $672.16.

At Sydney, 63 seamen received medical treatment, the total number of days being 816, and the amount expended in maintaining the hospital was $1,029.36.

At Point Tupper, eight seamen were admitted to the hospital, the total number of days for which they received treatment being 70, and the amount expended in connection with keeping the hospital was $311.77.

In the province of Prince Edward Island the amount expended on account of sick and disabled seamen during the fiscal year was $1,222.18; and the receipts from sick mariners' dues were $475.18.

Sick seamen are cared for at the Charlottetown and Prince Edward Island Hospitals under arrangements made with the managers of these institutions at the same rate as is paid to the public Hospitals in other parts of the Dominion.

The Prince Edward Island hospital admitted five sick seamen giving them treatment for 122 days; the amount paid was $109.80.

At the Charlottetown Hospital 18 men received medical treatment for a total number of 537 days. The sum of $482.30 was paid to the managers for the fiscal year ended 30th June.

There is a Marine Hospital Building at Souris, P.E.I., the property of the Government. The building is a substantial wooden building, but requires a good stone foundation. Temporary repairs were made to the foundation, costing the sum of $250, in order to prepare it for renting. Tenders were invited in November, 1891, for the purchase of the property, as the Government had decided the Marine Hospital at Souris was not necessary. One tender only was received, but the offer was so low that the department did not deem it in the public interest to accept the tender.

In the province of British Columbia the sum of $3,596.87 was expended for sick and disabled seamen, while the receipts from collection of sick mariners' dues amounted to $6,450.74.

The Marine Hospital at Victoria has in attendance a medical superintendent with a salary of $300 per annum, a keeper whose salary is $500 per annum; he is also allowed a rate of $5 per week for board and attendance of each seaman. The keeper procures fuel, lights, bedding, etc., at his own expense. The number of seamen admitted to the hospital for the past year was 152, the total number of days during which they received treatment was 2,318, and the sum expended was $2,655.57.

At ports where no hospitals are established, in the provinces of Quebec, Nova Scotia, New Brunswick, British Columbia and Prince Edward Island, sick seamen are cared for under the direction of the chief officer of customs when the vessels to which the seamen belong have paid dues, according to law. A circular to collectors of customs was issued 7th of February, 1891, permitting sick seamen to be attended at the port of arrival of a vessel, provided that the regular dues were previously paid at some port.

During the fiscal year the sum of $2,767.35 was expended for shipwrecked and destitute seamen, under the provisions of the Sick and Distressed Mariners' Act. Of this sum $899 were paid to Her Majesty's Imperial Government to reimburse expenses incurred in caring for shipwrecked and distressed Canadian seamen in foreign ports.

The total expenditure by this department on account of sick and disabled seamen, and distressed and shipwrecked seamen amounted to $33,498.83, and the appropriation by Parliament for this service was $34,000. The dues collected amounted to $45,381.92. It will be seen that the receipts exceeded the expenditure $11,883.09.

The receipts and expenditure in connection with this service during the preceding 24 fiscal years were as follows :—

—	Receipts.	Expenditure.
	$ cts.	$ cts.
For the fiscal year ended 30th June, 1869	31,353 78	26,987 64
do do 1870	31,410 46	27,029 34
do do 1871	29,683 41	28,971 22
do do 1872	34,911 64	34,947 60
do do 1873	37,136 10	41,016 43
do do 1874	41,500 16	59,778 90
do do 1875	37,801 46	50,684 76
do do 1876	41,287 66	48,828 49
do do 1877	43,739 21	51,647 94
do do 1878	44,665 07	43,780 90
do do 1879	37,779 57	42,729 36
do do 1880	42,523 20	42,160 91
do do 1881	49,779 72	40,667 52
do do 1882	45,951 47	39,359 11
do do 1883	45,573 42	36,249 65
do do 1884	48,667 07	39,553 58
do do 1885	39,068 39	44,501 57
do do 1886	40,848 05	50,377 62
do do 1887	42,334 92	37,447 35
do do 1888	41,669 64	36,447 85
do do 1889	39,306 29	41,320 59
do do 1890	47,881 75	41,729 11
do do 1891	43,829 68	35,155 12
do do 1892	45,381 92	33,498 83
	984,084 04	977,878 09
Deduct expenditure from receipts	978,871 09	
Excess of receipts over expenditure	5,272 95	

METEOROLOGICAL SERVICE.

The report of the Meteorological Service by the director Mr. Carpmael, extending from the 1st of November 1891, to the 30th June 1892, forms an appendix to this report. During the period referred to, three stations in Ontario, two stations in Quebec, one station in Newfoundland, four stations in the North-west Territories and two in British Columbia have been added to the list. Instruments have been supplied to two clergymen who have proceeded to occupy stations in the McKenzie River District; also to Bishop Reeve who has gone to Fort Simpson in the same district. The total expenditure in connection with the Meteorological Service at the end of the fiscal year, 30th of June last, was as follows :—Central office, Toronto, $12,405.87; ten chief stations, viz. : St. John, N.B., Quebec, Halifax, Montreal, Sydney, C.B., Fredericton, N.B., Regina, Woodstock, Ont., Esquimalt, B.C., and Winnipeg, $7,684.67. In connection with the telegraph stations the expenditure was $7,774.14; reserve stations, $775; special stations, $1,154; and for drum stations, $2,469.11. For telegraphing the sum of $18,862.30 was expended, whilst new instruments cost $2,768.95. Miscellaneous expenditure, $6,425.27; making a total of $60,320.29. The appropria-

tion was $62,900.00, showing an expenditure of $2,579.71 less than the appropriation. The salaries of the Superintendents of the chief stations range from $400 to $1,200, according to the importance of the station; salaries of officers at telegraph stations are from $50 to $400, according to the work done; for special stations, from $18 to $120; for a number of drum stations, from $45 to $100; while at others, 50 cents for each message received is paid.

Several heavy storms occurred in Canada since the last report was issued, and in nearly every instance warnings were given. For the six months beginning the 1st of January and ending the 30th of June last, 289 storm warnings were issued and 228 or a percentage of 78·9 of these were verified. Weather forecasts have been published regularly throughout the period just referred to, both in the newspapers and at about 1,500 telegraph offices in Manitoba, Ontario, Quebec and the Maritime Provinces. Warnings of approaching snow storms as heretofore were issued to the railways. In the beginning of December, 1891, the managers of the different railway companies were asked by circular whether they desired to have such warnings continued; all of them desired to receive them and acknowledged their great value.

Voluntary observers have continued their work in many parts of the Dominion and have rendered assistance in interesting the public in a study of our varied climate. Many more have volunteered their services and have requested to be supplied with instruments, but these requests could not be complied with unless the appropriation by Parliament had been exceeded.

Inspection of the stations forms part of the duty of the staff of the central office, and the reports of these Inspectors will be found in the appendix to this report in connection with Meteorological Service. Seventy-two stations were visited, in which the instruments were adjusted and put in good order.

MAGNETIC OBSERVATORIES.

The annual reports of the Director of the Magnetic Observatory at Toronto and the observatories at Quebec, Montreal, Kingston and St. John, are attached to the report on the Meteorological Service. The sum of $4,386.05 was expended in connection with the Magnetic Observatory at Toronto, and $500 each for the observatories at Kingston and Montreal. The total amount expended on account of the Meteorological and Magnetic Observatory Services was for the past fiscal year $64,706.34, being $2,249.24 more than the expenditure of last year, for the same services.

GEORGIAN BAY SURVEY.

The report of Staff Commander Boulton, R.N., as to the operations of the survey, forms an appendix to this report. The sum of $18,000 was voted for this service last session. The expenditure for the past fiscal year amounted to $16,451.10 being $1,226.41 less than the previous year.

The yearly expenditure on account of the Georgian Bay survey has been as follows :—

Year.	Amount.
1882–83	$ 77 81
1883–84	26,745 54
1884–85	20,454 68
1885–86	17,759 36
1886–87	21,592 55
1887–88	19,468 13
1888–89	17,808 46
1889–90	17,969 23
1890–91	17,677 51
1891–92	16,451 10
	$276,004 37

The " Bayfield " left Owen Sound on the 4th May last to complete the work she was engaged in last year; this being done the energies of the whole survey party were concentrated on that part of Georgian Bay comprised between Moor's Point and Waubaushene, including the Christian Islands. The work was continued until the 18th of October when the vessel proceeded to Owen Sound and the surveying operations ended. The whole of the coast line of the above mentioned district was charted.

The head waters of Georgian Bay contain several excellent havens, such as Victoria Harbour, Midland and Penetanguishene, the approahes to which are comparatively free from outlying dangers. The report of Staff Commander Boulton indicates that the locality is well suited for a trans-continental port in connection with a line from Montreal. Commander Boulton's services will be no longer required in connection with survey of Georgian Bay, but he will be employed during the winter in drawing copies of charts for the engraver.

BURRARD INLET.

The expenditure in connection with Burrard Inlet was $2,580.45 for the fiscal year ended 30th of June last.

MEASURED MILE, OWEN SOUND.

A mile was measured by Staff Commander Boulton on the shores of Owen Sound for testing the speed of steamers built under contract at Owen Sound for the Government.

LONGITUDE OF MONTREAL.

By reference to the report of last year it will be seen that arrangements were made for determining the exact longitude of Montreal. The question is one of importance and is necessary for the construction of reliable hydrographic and other charts. Our knowledge of the position of all points in Canada has hitherto been determined on the longitude determinations made by the Government of the United States and the Harvard College Observatory. The McGill College authorities have for some time entertained serious doubt respecting the longitude of Montreal, and

as better means for trans-atlantic determinations are now available than at the time when the American work was performed, it has been considered most desirable that an independent Canadian determination of longitude should be made by direct connection of Montreal and Greenwich.

Last year some preparatory arrangements were made by building a hut at Canso, N.S. Some instruments were imported and tests made of the transmission of messages between Montreal and Waterville, Ireland. Mr. Hosmer, General Manager of the Canadian Pacific Railway Company, on behalf of that company, arranged for the free use of the cable and telegraph lines for transmission of signals and messages in connection with the work.

Professor McLeod, of McGill University, and Mr. Klotz, of the Department of the Interior, have been engaged in making observations on the Canadian side, whilst Mr. Hollis and Mr. Turner, of the Royal Observatory, Greenwich, made observations on the other side of the Atlantic. In addition to this these observers changed places for the purpose of personal equation. The observers are now at work making their calculations which will not be completed for some months to come.

The appropriation for this work made by the Dominion Parliament was $2,000, and the expenditure for the fiscal year $1,431.73.

The Admiralty in Great Britain set aside the sum of £650 for the operations connected with the work.

The report of Mr. McLeod is published as an appendix to this report.

REWARDS FOR SAVING LIFE AND LIFE-BOAT SERVICE.

An appropriation of $8,000 was made by Parliament for the above-named-service, and the sum of $6,398.98 has been expended during the last fiscal year. In an appendix published with this report will be found a list of persons to whom rewards and testimonials have been granted by the Government of Canada and by Her Majesty's Government, and also by foreign Governments, for humane and gallant exertions in saving life at sea, and also of rewards given for saving life on the shores of Canada.

The crews of life-boats consist of a coxswain and six men, who all sign articles of engagement, in consideration of compensation prescribed by the department. This compensation has hitherto been $1.50 per man for each drill satisfactorily performed, while the coxswain, who is also the superintendent of the station, receives in addition the sum of $75 per annum for taking charge of the life-boat house, boat and all apparatus, and is responsible to the department for the property placed in his care. Rewards of money are also given to the crews when lives are saved through gallant exertions or the rescues have been sufficiently meritorious to deserve recognitions by money rewards. Reports have not been received from superintendents of stations, as the usual custom in the past has been to report at the end of the year when all the drills have been performed for the season. The supplement to this report will contain references to the cases of rescue and life-saving; and a statement of life-boat stations and particulars of boats' crew and equipment.

It has been found necessary to establish periodical inspection of the life-boat service. This work has been added to the duties of Mr. Alfred Ogden, Fishery Officer, who has been instructed to visit all the stations in the Provinces of Nova

Scotia and New Brunswick, and to report to the department as to the state of efficiency of the stations and the requirements, if any, to increase the efficiency.

The canoe stations in the Province of Quebec have been abolished.

SIGNAL SERVICE.

The report of Mr. McHugh, inspector of this service at Quebec, forms an appendix to this report. It will be seen from his report that very little ice formed in the Gulf of St. Lawrence during the winter, and that navigation was not interfered with until the heavy ice which drifts in from the Atlantic Ocean blocked some of the harbours.

Reports were sent three times a week between the 1st and 20th of April to the Board of Trade of Montreal, Quebec, St. John, N.B., and the Chamber of Commerce at Halifax; also to the press of Montreal and Quebec, to the agent of the department at Quebec, to the collecter of customs and immigration agent at Quebec, to the agents of steamship lines, to the pilots below and above Quebec, and to Lloyd's Agent. From the 20th of April two reports per week were received and forwarded to the places above mentioned. During the season of navigation, reports were sent to North Sydney, a port of call for large vessels from European ports. The Quarantine doctor at Rimouski was also supplied with a report informing him of the arrival of incoming mail steamers. Information as to wind, weather and ice in the vicinity of Anticosti, Magdalen Islands, Meat Cove, C.B., St. Paul's Island and Cape Ray, Newfoundland, was also sent to Point Esquimaux for the guidance of the sealing fleet. Full information was supplied from the bureau at Quebec to the agent at Anticosti, Magdalen Islands, Meat Cove, C. B., St. Paul's Island, Cape Ray, Newfoundland, Low Point and North Sydney from the 18th of April, and to Cape Race from the 13th, as to the weather, wind, movement and condition of the ice in the Gulf of St. Lawrence and River up to Montreal, for the guidance of vessels calling for information.

The sealing schooners left Point Esquimaux on March 10th. The number of seals brought in by the schooners was 6,000; the number killed on shore at Amherst Island, was 500; at St. Paul's Island, 450; the ss. "Esquimaux" from St. Johns, Newfoundland, secured 3,000, and 34 were killed at Fox Bay, Anticosti, making a total of 9,984 seals killed between the 17th March and 29th April.

The expenditure for signal service was $5,014.42, whilst the Parliamentary appropriation was $6,000.

REMOVAL OF OBSTRUCTIONS TO NAVIGATION.

The sum of $5,000 was appropriated by Parliament for the removal of obstructions to navigable waters, and the sum of $2,878.68 was expended during the last fiscal year.

The schooner "A. G. Ryan," which was sunk in 1886 off Captain John's Island, Bay of Quinté, Ontario, was removed by contract in May, 1892. Tenders were invited for the removal of this wreck, the lowest being that of the Donnelly Salvage and Wreckage Company, for $850.

The schooner "J. P. Ames" was sunk at a wharf in Moncton Harbour and formed an obstruction to vessels which used the wharf. Tenders were invited for the removal of this wreck and the contract awarded to Sévère Leger for $60; the wreck has been successfully removed.

The schooner "Laura" was wrecked on Gull Rock, Brier Island, on the 20th June, 1890, the vessel came off but became water-logged and was dismasted and drifted up and down the Bay until she entered Digby Gut. Mr. Stephen Taylor secured the wreck and anchored it. The vessel was broken up by him, and the department paid him $110 for removing the obstruction.

The schooner "J. L. Crossley" was sunk on the 7th of September, 1891, at the Gas Company's wharf, Halifax. As she was a serious obstruction to navigation tenders were invited for the removal of the wreck and the contract awarded to Messrs. McDonald & Co., for $800.

The Government holds the owners of wrecked vessels responsible for the cost of removing them when they form an obstruction to nagivable waters of Canada, under the provisions of "An Act respecting the Protection of Navigable Waters." Steps are usually taken to recover the amount expended in removing obstructions unless the owners are entirely without the means of reimbursing the Government.

STEAM-BOAT INSPECTION AND CERTIFICATES TO ENGINEERS.

The annual report for the year 1892 of the board of inspection forms an appendix to this report. The statement showing certificates granted to engineers of steam-boats will be published in the supplement to this report, together with a list of steam vessels inspected and steam vessels not inspected; number of passengers allowed to be carried in each passenger steam-boat; steam vessels added to the list, and steamers lost or laid up or rendered unfit for service during the year.

The amount received during the past fiscal year on account of tonnage dues, inspection of steam-boats and certificates to engineers was $20,994.84, of which sum $20,483.34 was for tonnage dues and inspection fees, and $511.50 for certificates to engineers. The expenditure for the fiscal year amounted to $22,736.59, leaving a deficiency of $1,741.75.

The following is a comparative statement of receipts and expenditure:—

	Receipts.	Expenditures.
	$ cts.	$ cts.
For fiscal year ended 30th June, 1870	12,521 29	7,379 18
do do 1871	10,369 96	8,321 00
do do 1872	11,710 43	8,500 00
do do 1873	15,412 75	11,205 54
do do 1874	15,603 19	10,291 58
do do 1875	15,011 90	12,199 81
do do 1876	13,811 24	13,081 86
do do 1877	15,858 42	12,073 01
do do 1878	12,431 25	13,228 28
do do 1879	12,331 16	13,076 46
do do 1880	15,424 02	11,854 34
do do 1881	16,905 49	12,211 65
do do 1882	15,277 78	14,835 97
do do 1883	12,577 36	16,209 02
do do 1884	15,371 79	21,893 28
do do 1885	13,343 66	23,235 04
do do 1886	14,087 76	21,775 57
do do 1887	12,701 20	22,837 80
do do 1888	12,550 14	21,430 45
do do 1889	12,576 18	22,313 03
do do 1890	19,859 18	20,989 52
do do 1891	21,644 72	22,183 76
do do 1892	20,994 84	22,736 59
	338,376 71	364,882 74
Deduct receipts from expenditure		338,376 71
Balance to debit of fund		26,506 03

The Steam-boat Inspection Act was further amended at the last session of Parliament. The details respecting the amendment will be found under legislation, in this report.

The following list contains the names of the inspectors of boilers and machinery and hulls and equipment of steam-boats, viz. :—

Name.	Position.		Address.
W. J. Meneilley	Chairman of Board of Steam-boat Inspection		Ottawa.
M. P. McElhinney	Inspector of hulls and equipments		do
C. R. Coker	do	do	St. John.
Thos. Harbottle	do	do	Toronto.
P. D. Brunelle	do	do	Quebec.
R. Collister	do	do	Victoria, B.C.
Thos. Donnelly	do	do	Kingston.
Jos. Samson	Inspector boilers and machinery		Quebec.
George Taylor Clift	do	do	Montreal.
Douglas Stevens	do	do	Halifax.
Edward Adams	do	do	Kingston.
Jas. Johnson	do	do	Toronto.
John Dodds	do	do	do
J. A. Thomson	do	do	Victoria, B.C.
W. L. Waring	do	do	Halifax.

CERTIFICATES TO MASTERS AND MATES FOREIGN SEA-GOING.

The report of the chairman of the Board of Examiners of Masters and Mates of sea-going ships for the eight months ending 30th June, 1892, will appear as an appendix to this report.

During the past eight months it will be seen by reference to the report in the appendix, the Board of Examiners have held meetings for the examination of candidates at the ports of Halifax, N.S., St. John, N.B., Quebec and Yarmouth, N.S. 84 candidates presented themselves for examination at the ports named; 60 succeeded in passing, while 24 failed. Of the 60 that passed, 35 received certificates as master, and 25 as mate.

The number of candidates who have passed and obtained sea-going masters' certificates of competency since the Act went into operation, viz., 16th September, 1871, to the 30th June, 1892, is 1,817, and the amount paid for certificates at the rate of $10 each, $18,170. During the same period 1,228 candidates received certificates of competency as mate, and the amount paid, at the rate of $5 each was $6,140.

In the supplement to this report a list will be found of all who have obtained certificates of competency and service, either as master or mate, from the 31st December, 1891, to the 30th June, 1892.

During the past six months no certificates of service, foreign sea-going, have been granted.

INLAND AND COASTING CERTIFICATES.

During the six months ended 30th June, 1892, the number of candidates who have passed and obtained masters' certificates of service is 36, and the amount paid for their certificates at the rate of $4 each was $144. During the same period 19 candidates applied for certificates of service as mate, and the amount paid at the rate of $2 each was $38.

Applicants for certificates of competency as master number 66, and the amount paid at the rate of $8 each was $528. Thirty applied for certificates of competency as mate, and the amount paid at the rate of $4 each was $120. The amount received for renewed certificates of competency and service was $12, making a total of $842 received from masters' and mates' inland and coasting certificates.

A list of certificates issued during the six months ended 30th June, 1892, will be found in the supplement to this report.

The total amount of fees received on account of certificates of competency and service, both sea-going and inland and coasting, during the fiscal year ended 30th June, 1892, amounted to $2,149, and the amount in detail expended on account of this service, as will be seen by reference to appendix No. 1, to this report, was $4,363.88. The vote for this service was $5,000, and the sum expended to 30th June, 1892, $4,363.88, leaving an unexpended balance of $636.12. A list of certificates cancelled during the last six months will also be found in the supplement to this report.

The following statement shows the total receipts and expenditure on account of masters and mates since 1871:—

	Expenditure.	Receipts.
	$ cts.	$ cts.
For the fiscal year ended 30th June, 1871	1,410 45	
do do 1872	4,312 07	1,344 00
do do 1873	6,466 18	4,963 00
do do 1874	4,520 19	2,995 00
do do 1875	5,696 62	2,715 00
do do 1876	4,672 08	2,021 87
do do 1877	4,050 00	1,740 50
do do 1878	4,249 76	1,296 50
do do 1879	4,250 12	1,334 50
do do 1880	4,253 43	1,547 00
do do 1881	3,888 41	1,333 50
do do 1882	3,965 19	1,152 50
do do 1883	4,021 20	1,314 00
do do 1884	3,909 59	9,437 50
do do 1885	4,324 15	2,897 00
do do 1886	5,245 28	2,152 00
do do 1887	4,855 98	2,172 00
do do 1888	5,060 96	3,220 80
do do 1889	4,381 04	2,202 00
do do 1890	4,117 83	2,186 00
do do 1891	4,255 24	2,586 00
do do 1892	4,363 88	2,149 00
	99,269 65	52,759 67
Receipts	52,759 67	
Excess of expenditure over receipts	41,509 98	

WRECKS AND CASUALTIES.

The total number of casualties to British, Canadian and foreign sea-going vessels reported to the department as having occurred in Canadian waters and to Canadian sea-going vessels in waters other than those of Canada during the six months ended 30th June, 1892, was 122, representing a tonnage of 47,073 tons register, and the amount of loss, both partial and total, to vessels and cargoes so far as ascertained was $595,768.

The number of lives lost in connection with these casualties will appear in the supplement to this report.

COASTING TRADE OF CANADA.

By the provisions of chapter 83, Consolidated Statutes of Canada, being an Act respecting the Coasting Trade of Canada, no goods or passengers can be carried by water from one port in Canada to another except in British ships; but the Governor in Council may, from time to time, declare that the Act shall not apply to the coasting trade in such country. The Parliament of Canada was empowered to pass the Act alluded to under the provisions of the Imperial Act, 32 Vic., chap. 11, intituled: "An Act for amending the Law relating to the Coasting Trade and Merchant Shipping in British Possessions," which came into operation in this country on its proclamation by the Governor General on the 23rd October, 1869.

It was ascertained that the following countries, viz., Italy, Germany, the Netherlands, Sweden and Norway, Austro-Hungary, Denmark, Belgium and the Argentine Republic, allowed British ships or vessels to participate in their coasting trade on the same footing as their own national vessels, the ships of Italy by Order in Council of the 13th August, 1873; those of Germany by Order in Council of the 14th of May, 1874; those of the Netherlands by Order in Council of the 9th of September, 1874; those of Sweden and Norway by Order in Council of the 5th November, 1874; those of Austro-Hungary by Order in Council of the 1st June, 1876; those of Denmark by Order in Council of the 25th of January, 1877; those of Belgium by Order in Council of the 30th September, 1879; and those of the Argentine Republic by Order in Council of the 18th May, 1881, were admitted to the coasting trade of Canada.

INSIDE SERVICE.

The following list comprises the names of officials and employees engaged in the inside service of the Department on the 1st October, 1892:—

Name.	Rank.	Salary.
		$ cts.
Wm. Smith	Deputy Minister	3,600 00
John Hardie	Chief clerk	2,400 00
F. Gourdeau	do and accountant	2,150 00
Wm. P. Anderson	Chief engineer and general superintendent of lighthouses	2,400 00
A. R. Gordon	Chief clerk and nautical adviser	2,400 00
W. L. Magee	Chief clerk	1,800 00
W. H. Alexander	1st class clerk	1 500 00
M. P. McElhinney	do	1,500 00
A. W. Owen	do	1,400 00
J. B. Halkett	2nd class clerk	1,300 00
W. W. Stumbles	do	1,200 00
V. C. Nicholson	do	1,200 00
V. H. Steele	do	1,200 00
A. Halkett	do	1,100 00
W. B. Carleton	3rd class clerk	1,000 00
J. E. McClenaghan	do	900 00
A. J. Horan	do	800 00
R. Roy	do	730 00
A. H. Guion	do	650 00
W. C. Gordon	do	450 00
M. C. Doyle	do	450 00

Extra Clerks.

M. Lamouche	Extra clerk	$2.25 per diem.
C. F. Cox	do	4 00 do
E. C. Campbell	do	$900 per annum.
B. H. Fraser	do	2.50 per diem.
L. J. Burpee	do	1.50 do
L. Bance	do	$400 per annum.

OUTSIDE SERVICE.

The number of persons employed in the outside service on the 30th of June, 1892, was as follows :—

Superintendent of lights and light-keepers, &c., in Ontario and above Montreal	159
Officers of agency in city of Quebec, and light-keepers, fog-whistle-keepers, crews of light-ships, &c., at and below Montreal, in the Province of Quebec	158
Agent, clerk, messenger, superintendent of lights, light-keepers, fog-whistle-keepers, attendants at humane establishments, &c., in Nova Scotia	199
Agent, clerk, messenger, light-keepers, fog-whistle-keepers, in New Brunswick	101
Agent and light-keepers in Prince Edward Island	41
Agent and light-keepers in British Columbia	15
Officers and crews of Dominion steamers and vessels	180
Captains of life-boats	17
Inspector of steamboats	17
Examiners of masters and mates and clerk to chairman of board	16
Officers and servants in marine hospitals	32
Shipping masters	25
Harbour masters	183
Officers of observatories, meteorological observers, &c., receiving pay	136
Receivers of wreck	39
Wharfingers	112
Making a total of	$ 1,430

For the previous year the number was 1,434. In addition to the 1,430 mentioned above, there are 79 registrars of shipping, who act under the direction and control of this department, but are, at the same time, collectors of customs at the various ports of registration, and receive no salaries or fees in their capacity of registrars. There are 95 measurers and surveyors of shipping at certain ports throughout the Dominion, who are officers of this department, and are remunerated from their fees of office, although, in addition to such office, many of them hold a position in the Customs service. Also, in addition to the above, by Orders in Council of the 21st April and 2nd December, 1874, the chief officer of Customs at each port in the Provinces of Quebec, Nova Scotia, New Brunswick, British Columbia and Prince Edward Island, where no separate shipping office has been established, is to be held and deemed a shipping master, is to receive the fees, make the half-yearly returns to this department, and act in that capacity under its directions.

From the above statement it will be seen that there are 136 officers of observatories, &c., who receive pay for the performance of their duties, but in addition thereto there are large numbers of meteorological observers throughout the Dominion who give their services gratuitously.

CORRESPONDENCE.

The correspondence has been gradually increasing from year to year. In 1878 the number of letters received and registered was 5,853, while the number received and registered in 1891, at the end of the calendar year, was 9,326, in the Marine branch. For the six months ending 30th June last, the number of letters received and registered was 7,248, or within 2,088 of the number received for the whole year of 1891. This does not include the applications for masters' and mates' certificates, wreck returns, returns from harbour masters, shipping masters, wharfingers, nor accounts, all of which are entered in books specially kept for the purpose. The number of letters sent from the department during the six months ended 30th June was 7,000.

MERCHANT SHIPPING.

The figures and tables relating to the number and tonnage of the vessels remaining on the registry books of the Dominion will appear in the supplement to this report, as the figures could not be obtained in time for the report, Registrars of Shipping being required by law to report how the registry books stand on the 31st day of December in each year.

The list of ships remaining on the registry books of the Dominion on the 31st December, 1892, will be published and issued early in 1893.

As the impression appears to exist that the charges on shipping in Canadian ports do not compare favourably with similar charges in other countries, a statement is herewith given of imports levied on shipping at the ports of Halifax and Montreal in Canada, and Portland and New York in the United States of America; along with a tabulated statement of the imports on steamships of the tonnage of the Allan steamship "Grecian," 2,375 tons register tonnage at the ports of Montreal, New York, Halifax and Portland.

A Statement of Port Charges for the ports of Halifax, N.S., Portland, Me., New York and Montreal, compiled from Urquhart's Port Charges, 1892:—

Halifax—

Sick Mariners fund, 2c. per ton three times a year.
Signal tax, $1.
Harbour Masters' fees, from 50c. to $5, twice a year, according to tonnage.
Port Warden's fees, hatches, $2.50; stowage, $2; hull, $5, to $8.
Wharfage, the cargo pays.
Pilotage: Vessel 600 tons, $18 in, $11 out, 50c. per 100 ton in, 25c. out.

Portland—

Tonnage dues, 6c. per ton from England or any foreign port not being a port in America or Newfoundland and not having reciprocal arrangements with the United States, not to exceed 30c. in any one year; from Canadian ports, 3c. per ton, not to exceed 15c.
Customs entry, $2.50; Surveyors fee, $3.
Signal tax, nil; Harbour Master, nil; Port Warden, nil.
Wharfage, cargo pays.
Pilotage, steamers, $2.50 per foot in, $1.50 out.

New York—

Tonnage dues, 6c. per ton from England or any foreign port not being a port in America or Newfoundland and not having reciprocal arrangements with the United States, not to exceed 30c. in any one year.

Quarantine dues, $6.50; disinfectants, $8; transportation, $20.

Seamen's Hospital, $1 per day, and charge for medical attention.

Clearance charges at Customs, $15 to $20.

Signal tax and Harbour Master's fees, nil.

Port Warden's fees: Survey on damage, $3; on hull, $5 and $2.50; valuation and measurement, $10; grain inspection, $15.

Wharfage at covered wharves, $25 and upwards per day.

Pilotage on 18 feet at $4.13 = $74.34 in, and $3.08 = $55.44.

Montreal—

Sick Mariners' fund, 2c. per ton three times a year.

Harbour Master's fees, $1 to $5 twice a year.

Port Warden's fees: Hatches, $2.50; stowage, $2; hull, $5 to $8.

Wharfage, cargo pays.

Pilotage below Quebec, from $3.40 to $5.54 per foot.

do above Quebec, $2.50 up, $2.50 down.

TABULATED STATEMENT of port charges on a steamer of the tonnage of the "Grecian," 2,375 tons, with cargo, in and out six days in port, for the ports of Halifax, Portland, New York and Montreal:—

Description of Port Charges on the Ship.	Halifax.	Portland.	New York.	Montreal.
	$ cts.	$ cts.	$ cts.	$ cts.
Pilotage draft about 21 feet, tonnage 2,375 tons	40 25	84 00	177 21	293 79
Wharfage six days on ship alone	.....	.....	300 00	.....
Port warden	10 00	.....	12 00	8 00
Entry and clearance at Customs, surveyor's fee, &c.	.....	5 50	15 00	.....
Seamen's hospital, New, York and sick mariners fund in Canada	47 50	.....	*.....	47 50
Tonnage dues, 6 cents per ton register	.....	142 50	142 50	.....
Quarantine dues	.....	.....	6 50	.....
Signal tax	1 00	.....	.....	.....
Harbour master's fee	5 00	.....	.....	.....
Approximate total on ship	103 75	232 00	653 21	349 29

The only rates levied by the Dominion Government on shipping in Canada are a small tax of two cents per ton payable in the case of vessels of 100 tons and under once in each calendar year, and in the case of vessels over 100 tons, three times in each year, for the purpose of maintaining a fund to provide medical attention and care for sick and disabled seamen, and a tax at the port of Quebec of three cents per ton, paid twice in each year, on vessels of over 100 tons, for maintaining a Water Police force for the protection of shipping at that port. There is also a small fee paid to the port wardens by vessels loading grain for ports in Europe.

*If a seaman is sent to the hospital in New York or Portland, one dollar a day is charged to ship.

NOTE.—See page 900, Urquhart's "Dues and Charges on Shipping," published by Geo. Philip & Son, London, in 1892. "Montreal is a cheap port of shipping. All dock or wharf dues on vessels were abolished in 1888, since which it may, in that regard, be termed a free port for shipping." The cargo pays wharfage.

In the United States of America there is a tax on shipping of six cents per ton imposed at each entry on all vessels from ports in Europe, not to exceed in the aggregate thirty cents per ton per annum. This tax, in the case of the steamship "Grecian," would amount to $712.50 in five trips. If to this amount are added the port charges at New York, as given in the tabulated statement, it gives a total for five voyages of that vessel from Europe to New York of $3,266.05, while for five voyages of the same vessel to Montreal the amount would be, for port charges and sick mariners dues, $1,651.45, viz.: $142.50 tonnage tax for a year, and $1,508.95 port charges for five voyages, making a difference of $1,614.60 in favour of the Canadian port.

In France quay dues are imposed on vessels from any European country, the Mediterranean and Morocco Coast at the rate of ten cents per ton, and from other countries, one franc per ton. There is also a tax imposed of three cents per ton, called Sanitary Tax. Pilotage is also compulsory. The charges on a steamship of the tonnage of the "Grecian" would be, at the port of Dunkirk, on a voyage from Montreal or New York, as follows:—

Quay dues	$427 50
Sanitary tax	71 25
Dock dues	23 75
Town dues	322 50
Harbour dues	47 50
	$892 50

Giving a total for five voyages of $4,460.50.

LOAD-LINES.

By reference to last year's report it will be seen that the matter of load-line or load marks on Canadian vessels was referred to at length, and the regulations which form part of the Merchant Shipping Act as amended by the Imperial Parliament in 1890 were published.

It was pointed out that the Imperial Act of 1890, if applied to all vessels registered in Canada, would injuriously affect the shipping interests of the Dominion. It was also stated that Her Majesty's Government was promptly requested by cablegram and despatch from the Governor General in Council, to suspend the operation of the Act so far as it related to Canadian vessels till a Bill could be framed and passed by the Dominion Parliament in compliance with Section 3 of the Imperial Act. A reply was received from Her Majesty's Government dated 4th May, 1891, stating that action would be deferred under Section 3 as regards Canadian vessels till the 1st of October, 1891. Action was further deferred till the 1st of January, 1892, when the Act referred to was put in force.

A Bill was framed and introduced in the Dominion Parliament by the Minister of Marine and Fisheries, under section 3 of the Merchant Shipping Act, 1890, embracing the general principles of the Imperial Act, but differing from it in two important particulars, viz.: the Free-board Tables which form part of the Board of Trade Regulations were not adopted as part of the provisions of the Bill. It was provided in the Bill that the owner or master of a ship shall in every case be one of the two persons to determine the level at which the centre of the disc shall be

placed below the deck line marked under the provisions of the Bill. The Board of Trade Regulations do not permit owners or masters to assist in fixing the load-lines.

It was provided in the Bill that the maximum load-line in salt water should be determined by a Surveyor of British Lloyds, French Bureau Veritas or any Port Warden appointed by the Governor in Council, assisted as above stated by the owner or master of a vessel; it was also provided that the limit of exemption from the operation of the Bill should be fixed at 150 tons and under. The Bill introduced by the Minister of Marine and Fisheries was referred to a select committee of Parliament, approved and passed both Houses.

This Bill did not receive the Royal assent as the Board of Trade considered the Free-board Tables adopted by them absolutely necessary for the proper determination of the load-lines.

It is to be regretted that the Canadian Bill, which embodied the views of the Minister of Marine and Fisheries, was not adopted for Canadian vessels. The contention of the Minister of Marine and Fisheries was, that the marking of load-lines on certain light draft Canadian vessels according to the Board of Trade Tables, when visiting ports in the United Kingdom, would injuriously affect these vessels. This contention has been sustained by the fact that ship-owners whose vessels have been marked in Great Britain have complained to the Department of Marine and Fisheries respecting the effect of the load-line mark in making their vessels unremunerative in carrying freights. It has also been brought to the notice of the department that vessels which leave ports in ballast were detained after the measurements were made some ten or twelve days before the marks were placed on the vessel. This, however, has been remedied by the Imperial Government meeting the wishes of the Canadian Government in allowing vessels to leave under provisional certificates and with the understanding that the load-line mark would be put on the vessels at the first practicable port after the receipt of the papers completed by the Board of Trade.

The department has also been informed by owners of vessels which have been marked in Great Britain, that their vessels have been handicapped in competition with foreign vessels. This refers particularly to single deck vessels.

The amendments proposed by the Minister of Marine and Fisheries to the Bill introduced by him, although in accordance, as it is contended, with the main principle of the Imperial Merchant Shipping Act of 1890, were not accepted by the Board of Trade. Canadian vessels are, therefore, when visiting Great Britain, marked under the Imperial Load-Line Act.

DECK-LOADS.

By reference to the report of last year, it will be seen that a Bill was introduced in the Imperial Parliament in 1890 entitled: "A Bill to amend the law in regard to timber deck-loads in winter, bulkheads in iron vessels, of the landing of live cattle." Another Bill was also introduced entitled: "A Bill to prevent the deck loading of timber in winter." The Bill did not become law.

The Government of Canada were invited by the Imperial Authorities to forward any observations they were desirous of making upon the proposed legislation in case a similar Bill be introduced at another session.

The recommendation was made to the Imperial Authorities that lumber-carrying vessels should be allowed to carry deck-loads of sawn lumber flush with the ship's rails and securely fastened by spars athwart ship, thereby affording no space for water to remain between the deck and the rail to do damage to the bulwarks.

The position taken by the Minister of Marine and Fisheries is strengthened by the fact that a work entitled "Practical Seamanship," for use in the merchant service, and a work largely used in the preparation of candidates for passing the Board of Trade examination, states that a well-decked steamer is permitted to carry a six-feet deck load.

INSPECTION OF SHIPMENT OF LIVE STOCK EXPORTED FROM CANADA.

With a view of fostering this trade so far as can be done by legislation, and removing any cause that might lead to loss, injury or ill-treatment of cattle, or cattlemen on board ship, an Act was passed in 1891 entitled "An Act respecting the shipment of live stock," 54-55 Vic., chap. 36. In accord with this Act two cattle inspectors were appointed in October, 1891. A report from the inspectors forms an appendix to this report and shows the number of vessels fitted and inspected under the Regulations, during the months of May, June, July, August and September, October and November. In May, 16,711 cattle were shipped; in June, 18,400; in July, 19,480; in August, 20,021; in September, 12,265; in October, 8,315, and in November, 3,943 cattle were shipped. The total number of cattle shipped during these six months was 98,731, and the total number reported lost for the season, 622.

The small percentage of cattle lost may largely be attributed to the new regulations which have been adopted in connection with fitting vessels for the cattle trade, and the proper inspection which has taken place during the present season. The deck fittings have been more secure than formerly and the arrangements for ventilation have been largely improved.

The following extract from the Dundee *Advertiser* contains a reference to the improvements in the cattle carrying trade under the regulations of the Act now being carried out:—

"THE SEASON'S TRADE.

"The trade in Canadian cattle at Dundee has this season assumed much larger dimensions than at one time was anticipated. At the beginning of the season there were rumours in Canada of possible restrictions on this side on the part of Mr. Chaplin and the Board of Agriculture, and exporters for a time acted with extreme caution. There was also the pulse of the British markets to feel with the view of discovering to what extent farmers were to buy Canadians this year. The trade, therefore, opened quietly, small shipments being the rule. The first cargo, which arrived at Dundee in the month of May, consisted of only 157 head, and the second, which came a week later, was composed of 187 cattle. The prices realized for these two lots were considered remunerative to the exposers, "stores" in particular doing well. After this large cargoes became general, the "Fremona," for instance, bringing the first big cargo on the 30th June, the number being 683 head. At this sale there was the first representative attendance of prospective buyers for the season, dealers coming from the surrounding counties, and from England and Ireland. The cattle were well bred, and the bidding was keen, the result being that good prices were got. This sale gave the trade a fillip, which has had its good effects since then, cargo after cargo having till now succeeded each other in rapid succession. The prices that

have been realized since have been subjected to a large amount of criticism. Farmers and dealers declare that the rates have been high; while the agents for the shippers state that, considering the quality of the beasts exposed, prices have been low, and sometimes unremunerative. The condition of the cattle brought to Dundee this season has been everything that could be desired. To the present time only six beasts have been lost on the way from Montreal to Dundee out of more than 6,000 head. Those who remember the losses and the disasters of last year, and all who were brought in contact with some of the vessels that came to Dundee, will understand the full meaning of this. Already this season thirteen vessels have arrived at Dundee from Canada, and last year for the same number of cargoes the losses amounted to 446 cattle."

"THE NEW ARRANGEMENTS.

"Towards this satisfactory state of affairs the new regulations issued at the beginning of the season by the Canadian Government have largely contributed. These regulations dealt mainly with the deck fittings and with ventilation, and although by many they were not considered sufficient to meet the requirements of the case, they have already effected a vast improvement. The cattlemen, who before were in a manner independent, are now placed on the ship's articles, and are subject to the authority of the master. Stronger beams and fittings are now provided, and as far as possible permanent iron pillars have been introduced. Considerable improvements require to be made on board the cattle ships before the lot of the transhipped cattle is made "a happy one," but no doubt other reforms will follow."

HUDSON'S BAY TRADE.

In the year 1886 the Canadian Government, following up the work of the years 1884 and 1885, sent an expedition to Hudson's Bay, under Lieut. A. R. Gordon, R.N., with the following explicit instructions given by the Hon. George E. Foster, who was Minister of Marine and Fisheries at that time :—

"It is desirable that you should proceed to the mouth of Hudson's Straits with as little delay as possible, so as to avail yourself of the very first feasible opportunity to make the passage through. If you are prevented from at once entering the Straits, you will occupy your time in taking accurate observations of the extent and condition of the ice, the prevailing winds and the currents at its mouth.

"At the earliest possible period consistent with the safety of the expedition you will push through the Straits, in order to demonstrate the earliest date of opening navigation and the time required to pass through the ice, noting carefully all the incidents of the passage.

"Unless necessity exists for visiting any of the stations of which you will be advised by the system of signals agreed upon, you will not lose any time in visiting them during your outward voyage.

"After having made your way through the Straits and taken all necessary observations, it will be advisable for you to push forward to the western coast of the Bay, and employ the time at your disposal with carefully examining Churchill Harbour and the Nelson River, flowing into the Bay, taking all necessary soundings and observing the lead of this river up to Seal Island, with a view to ascertaining the suitability of these harbours for the reception and security of vessels and the purposes of trade.

"In addition to this, any information, hydrographical, geological or with reference to the fisheries of that region, which you can gather, should be as carefully and completely collected as opportunity permits.

" It would be well to delay your homeward voyage through the Straits to as late a period as is consistent with safety and the labour involved in gathering the men and plant of the observing stations, in order to gain whatever data you can as to the condition of the Straits at the latest period of navigation.

" The observers, the houses and portable and valuable articles at the stations you will take on board the " Alert " on your return voyage, and bring them with you to Halifax.

" You will bear in mind that it is the wish of the department to demonstrate as far as possible the navigability of the Straits, for purposes of commerce, in point of time and facility, and anything that will conduce to that end, the department relies upon you to do to the limit of the means placed at your disposal."

A full report was made by Lieut. Gordon in March, 1887, respecting the expedition of 1886 under his command. This report was published as a blue book of the Department of Marine and Fisheries, and contained a narrative of the trip to Hudson's Bay and return, together with ice observations and notes of the observers who had been left at certain posts in 1884 and 1885. The resources of the Hudson's Bay region were referred to and abstracts of meteorological observations were given. It also contained a report of Mr. F. F. Payne, one of the observers, on the " flora " and " fauna " of Stupart's Bay, and a report by Dr. R. Bell, of the Geological Survey, who accompanied the expedition, on economic minerals to be found on the shores of Hudson's Bay and vicinity.

The design of this article is not to republish, in an extended way, information that can be found in the reports above referred to, but rather to show that recent steps have been taken by the Government to prevent illegal fishing, smuggling and improper trading with the natives.

It has been reported that foreigners have prosecuted the whale fishery in Hudson's Bay and Straits, and while doing so, have furnished the Esquimaux with goods, liquors, &c., upon which no duty has been paid. It has also been reported that explosive bomb lances were extensively used by foreigners in whaling, and that this method was rapidly destroying the industry in Hudson's Bay. As to the matter of foreign vessels visiting Hudson's Bay or any other outlying part of the Dominion where Customs officials or Government officers of any kind are not stationed, the Government deemed it advisable to issue a public notice in order to prevent any illegal trading, landing of goods, or supplying Indians with intoxicating liquors. The following notice was accordingly issued as a warning to masters, owners and persons in charge of foreign vessels, and to all others whom it may concern. The notice contains the provisions of four Acts passed by the Parliament of Canada, and is signed by the Minister of Marine and Fisheries, viz.:—

1. An Act respecting fishing by foreign vessels, being chapter 94 of the Revised Statutes of Canada, which provides among other things:—

(1.) For the granting to foreign ships, vessels and boats, and to ships, vessels and boats not navigated according to the laws of the United Kingdom, or of Canada, of licenses to fish for, take, dry, or cure fish in British waters within three marine miles of the coasts, bays, creeks or harbours of Canada.

(2.) That fishery officers and certain other British and Canadian officers therein named may board ships, vessels and boats within any harbour in Canada, or hovering in British waters as aforesaid, and may stay on board so long as such ships, vessels or boats remain in such harbour or waters.

(3.) That any one of such officers may bring any such ship, vessel or boat into port and search her cargo, and may examine the master upon oath touching the cargo and voyage, the master being liable to a penalty of four hundred dollars ($400) for not answering truly the questions put to him.

(4.) That if such ship, vessel, or boat is foreign, or not navigated as aforesaid, and (*a*) has been found fishing or preparing to fish, or to have been fishing in any such British waters as aforesaid without a license, or after the expiration of the term named in the last license granted to such ship, vessel, or boat, or (*b*) has entered such waters for any purpose not permitted by Treaty or Convention, or by any law of the United Kingdom, or of Canada, such ship, vessel, or boat, and the tackle, rigging, apparel, furniture, stores, and cargo thereof shall be forfeited.

(5.) The officers aforesaid are given authority to seize and secure vessels, goods, &c., liable to forfeiture, and any person opposing an officer in the execution of his duty under the Act, or aiding or abetting any person in such opposition is declared to be guilty of a misdemeanor and liable to a fine of eight hundred dollars ($800), and to two years' imprisonment.

2. The Acts respecting the Customs, being chapter 32 of the Revised Statutes of Canada, and the Acts amending the same, which provide among other things:—

That all goods imported into Canada whether dutiable or not shall be brought in at a port of entry where a Custom-house is lawfully established, and if any goods are imported into Canada at any other place, such goods shall be forfeited, and every person concerned in such unlawful importation shall incur a penalty equal to the value of the goods, and if any vessel enters any place other than a port of entry, unless from stress of weather or other unavoidable cause, any dutiable goods on board thereof except those of an innocent owner, shall be seized and forfeited, and the vessel may be seized, and if under eight hundred dollars ($800) in value, the master, or person in charge, shall incur a penalty not exceeding four hundred dollars ($400), and if the vessel is worth more than eight hundred dollars ($800), a penalty of eight hundred dollars ($800), and the vessel may be detained until the penalty is paid, and if it is not paid within thirty days, the vessel may then be sold to pay the penalty and costs.

3. The Acts respecting the Indians, being chapter 43 of the Revised Statutes of Canada, and the Acts amending the same, which provide among other things:—

That anyone who by himself, his clerk, servant, or agents, and anyone who in the employment of or on the premises of another, directly or indirectly, on any pretence or by any device sells, exchanges with, barters, supplies, or gives any intoxicant to any Indian, or causes or procures the same to be done or attempts the same or connives thereat, shall be liable to imprisonment for a term not exceeding six months, and not less than one month, with or without hard labour, or to a penalty not exceeding three hundred dollars ($300) and not less than fifty dollars ($50) and costs, one-half of which fine shall be payable to the informer, or he shall in the discretion of the Judge or Magistrate be liable to both penalty and imprisonment.

And the commander, or person in charge of any steamer, or other vessel, from or on board of which any intoxicant has been sold, bartered, exchanged, supplied, or given to any Indian, shall be liable to a penalty not exceeding three hundred dollars ($300), and not less than fifty dollars ($50), one-half of which shall be payable to the informer; and any vessel, boat, canoe, or conveyance, employed in carrying intoxicants to Indians may be seized and declared forfeited.

4. The Act respecting the North-west Territories, being chapter 50 of the Revised Statutes of Canada, and the Acts amending the same, and the Act respecting the District of Keewatin, being chapter 53 of the Revised Statutes of Canada, which provide among other things:—

That every person who makes, manufactures, imports, sells, exchanges, trades, or barters any intoxicant in the North-west Territories or District of Keewatin, except by permission of the Lieutenant-Governor of the North-west Territories, or of the District of Keewatin, as the case may be, or in whose possession any intoxicant is found, shall incur a penalty not exceeding two hundred dollars ($200), and not less than fifty dollars ($50), and for a subsequent offence a penalty not exceeding four hundred dollars ($400), and not less than ($200), of which one-half shall belong to the informer; and every person who has knowingly in his possession any article, chattel commodity, or thing purchased, acquired, exchanged, traded, or bartered, either wholly or in part, for any intoxicant, shall incur like penalties, and the article, chattel commodity, or thing, shall be forfeited to Her Majesty, and if the penalty is not paid forthwith, the offender may be imprisoned for a term not exceeding six months, unless the penalty and costs are sooner paid.

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

Department of Fisheries, Ottawa, 6th July, 1891.

The Commissioner of Customs has lately returned from a visit to part of Hudson's Bay, or more strictly speaking, to James Bay, and while there he sought for reliable information as to the extent of illegal trading reported to have been carried on by foreigners and others with the natives of the region further north. In a lately published interview, the Commissioner states that he could not learn that illicit trade had been carried on of late years by foreigners with the natives to any great extent, certainly none in the lower half of the Bay. He is also of the opinion that foreigners or others engaged in whale-fishing now seldom visit Hudson's Straits or Bay for the purpose of prosecuting this industry. He is also of the opinion that whales are seldom found in these waters and therefore there is little inducement for whaling vessels to enter Hudson's Bay. From information obtained in conversation with Hudson's Bay Company officers and others, he considers the Hudson Straits navigable for specially constructed vessels during a period of four months of the year and possibly longer in some seasons. The Bay, however, is open for a longer period than four months every year, and there is no difficulty experienced in some parts in navigating it six months or even longer.

The best harbour to be found on the western coast of Hudson's Bay is Churchill, at the mouth of the Churchill River. This harbour affords good protection and safe anchorage, with a depth of over four fathoms at low water. York Factory, also on the west side, but south of Churchill, is not a good harbour for vessels of any size; much difficulty has always been met with in landing goods carried by vessels of sufficient size to be employed in the trade from Atlantic ports. The harbour at Moose Factory is not even as good as that of York Factory, but the two latter places are favourable distributing points for the Hudson's Bay Company, and therefore all the goods that are landed in Hudson's Bay are entered at Customs at these two places. From figures obtained from the Customs Department, it appears that a considerable quantity of goods are annually conveyed from Great Britain to Moose Factory and York Factory, principally for the use of the Hudson's Bay Company, which are exchanged with the natives for fur and other natural

products of the extensive district surrounding the Bay. The exports from these localities have largely exceeded the imports, as the following figures will show :—

	Imports.	Exports.
1890	$70,000	$110,000
1891	65,000	114,000
1892	.....	108,000

The figures are given in round numbers and are for the fiscal year, but the imports for 1892 have not yet come to hand. It is the opinion of Lieut. Gordon and the Commissioner of Customs that Churchill with very little expenditure would make a good harbour for the exportation of the products of a portion of the North-west, if suitable vessels specially constructed so as to resist the pressure of floating ice, were engaged in the trade of conveying these products to Great Britain and other markets. From the evidence available there does not appear to be any great obstacle in the way of making Churchill an outlet for the shipment of grain, fat cattle or dead meat from the North-west Territories.

From information obtained by this department it does not appear that many vessels either British or foreign now enter Hudson's Straits or Bay for the purpose of fishing. Seals being more plentiful on the Newfoundland and Labrador coasts and whales being extremely scarce in the Hudson's Bay waters, there does not seem to be the probability of an adequate return for the outlay and difficulty inseparable from fishing in Hudson's Bay. The natives, however, hunt the walrus between July and November and at other seasons the great seal, the harp seal, rough seal, narwhal and white whale; the last named animal forms a large part of the Esquimaux food and, of course, is very eagerly sought for. It might be here stated that these do not form the only articles of food, as plover, ptarmigan, wild geese, wild ducks and many other kinds of wild birds are plentiful.

At Ungava Bay the Hudson's Bay Company has prosecuted the salmon fishery. The export of fish from this place has, of late years, consisted of salt salmon; the shipment of salmon in its fresh state not having proved satisfactory. From the different sources of information available to the department, it does not seem advisable at present to enter into any large expenditure for the protection of the fisheries in Hudson's Straits and Bay. With regard to the question of improper trade with the Esquimaux of the northern portions of the Bay, sufficient information of a reliable kind has not yet reached the Government on this subject and, therefore, there does not seem to be any present ground for outlay in maintaining a vessel to prevent violations of any of the laws referred to in the public notice issued in July of 1891.

HYDROGRAPHIC SURVEY OF ANTICOSTI.

The attention of the department was called by the owners of the wrecked steamer "Idaho" to the fact that dangerous reefs exist on the coast of Anticosti which are not marked on the chart. The Imperial authorities were addressed on the subject of a re-survey of the coast of Anticosti and a proposition made by the Dominion Government to pay half the cost, which proposition was agreed to and an estimate furnished by the Admiralty of the probable cost, viz: in the vicinity of $30,000. The report of Commander William Tooker, of the Newfoundland Survey, showing the extent of coast surveyed in 1892, forms an appendix to this report.

LEGISLATION.

The harbour of St. John is now governed under 45 Vic., chap. 51, by Harbour Commissioners appointed under that Act. It was found that the Harbour Commissioners had no power to take charge of the harbour beyond three miles from the limits of the city. Great complaint was made against masters of vessels throwing ballast overboard in the bay beyond the three-mile limit.

An Act was passed last session extending the limits of the harbour seaward, giving the Harbour Commissioners power to prevent navigation being injuriously affected in the manner complained of.

An Act amalgamating the Department of Marine and Fisheries was passed last session, giving authority to the Minister of Marine and Fisheries to appoint a Deputy Head of the Department of Marine and Fisheries. A copy of the Act forms an appendix to this report.

An Act was passed to amend the Pilotage Act, exempting vessels of not more than 120 tons from compulsory pilotage.

I have the honour to be, Sir,

Your most obedient servant,

WM. SMITH,

Deputy Minister of Marine and Fisheries.

Department of Marine and Fisheries,
Ottawa.

APPENDIX No. 1.

STATEMENT of Expenditure of Department of Marine for the Fiscal Year ended 30th June, 1892.

Service.	Amount.	Total.
	$ cts.	$ cts.
Civil Government salaries		36,365 59
do contingencies		6,829 92
Ocean and River Service—		
Maintenance and repairs Dominion steamers	127,406 28	
Construction of steamer "Quadra"	18,493 33	
Examinations of mates and masters	4,363 88	
Investigations into wrecks, &c	603 21	
Removal of obstructions in navigable waters	2,878 68	
Registry of Canadian shipping	462 59	
Rewards for saving life, &c	6,398 98	
Tidal observations	711 59	
Water police, Quebec	6,161 60	
Winter mail service, Prince Edward Island	3,309 44	
		170,789 58
Lighthouse and Coast Service—		
Salaries and allowances to Light-keepers	198,791 31	
Agencies, rents and contingencies	17,058 02	
Maintenance and repairs to lights, &c	246,349 16	
Construction of lighthouses	35,804 20	
Signal service	5,014 42	
		503,017 11
Scientific Institutions—		
Meteorological service	60,320 28	
Observatory, Kingston	500 00	
do Montreal	500 00	
do Toronto	4,386 05	
		65,706 33
Marine Hospitals, &c—		
Marine hospitals and sick and disabled seamen	30,731 48	
do St. Catharines	108 00	
do Kingston	500 00	
Shipwrecked and distressed seamen	2,767 35	
		34,106 83
Steam-boat inspection		22,736 59
Survey Georgian Bay		16,451 10
Survey Burrard Inlet		2,580 45
Determination of longitude of Montreal		1,431 73
Export cattle trade		1,411 57
		861,426 80

WM. SMITH,
Deputy Minister of Marine and Fisheries.

F. GOURDEAU,
Accountant.

APPENDIX No. 2.

STATEMENT of Revenue of Marine Department for the fiscal Year ended 30th June, 1892.

Service.	——	Amount.
	$ cts.	$ cts.
Casual revenue—		
Shipping forms	168 25	
Inspection of cattle	503 58	
Sundries	11,162 44	
Examinations of masters and mates	2,149 00	
		13,983 27
Capes mail service		259 07
Dominion steamers		6,996 15
Fines and forfeitures		629 31
Harbours, piers and wharves		8,466 65
Harbour improvements		3 60
Harbour police dues		8,714 79
Lighthouse and coast service		978 00
Steam-boat engineers' certificates		686 30
Steam-boat inspection		20,483 34
Sick mariners' fund		45,381 92
		106,582 40

F. GOURDEAU,
Accountant.

WM. SMITH,
Deputy Minister of Marine and Fisheries.

APPENDIX No. 3.

STATEMENT of Sick Mariners' Dues collected, for the fiscal Year ended 30th June, 1892.

Quebec.	$ cts.
Gaspé	30 34
Montreal	4,375 92
New Carlisle	309 70
Percé	87 68
Quebec	8,281 11
Rimouski	317 70
St. Armand	3 32
Saint John's	1,028 96
Sorel	27 40
Stanstead	22 14
Three Rivers	175 92
Total	14,660 19
New Brunswick.	
Bathurst	211 00
Chatham	1,524 88
Dalhousie	489 78
Dorchester	22 96
Moncton	642 01
Newcastle	597 62
Sackville	323 62
St. Andrews	155 22
St. John	4,430 26
St. Stephen	101 48
Total	8,498 83
Nova Scotia.	
Amherst	510 30
Annapolis	189 32
Arichat	148 48
Baddeck	42 66
Barrington	27 02
Canso	21 98
Digby	246 02
Nova Scotia—Concluded.	
Halifax	6,870 06
Kentville	70 80
Liverpool	121 20
Lockeport	37 28
Lunenburg	425 42
Margaretsville	5 64
North Sydney	996 12
Parrsboro	590 76
Pictou	555 46
Port Hawkesbury	63 64
Port Medway	28 02
Shelburne	54 16
Sydney	2,668 50
Weymouth	121 88
Windsor	1,197 10
Yarmouth	305 16
Total	15,296 98
Prince Edward Island.	
Charlottetown	374 98
Summerside	100 20
Total	475 18
British Columbia.	
Nanaimo	3,425 18
New Westminster	140 12
Vancouver	1,340 36
Victoria	1,545 08
Total	6,450 74
Grand Total	45,381 92

F. GOURDEAU,
Accountant.

WM. SMITH,
Deputy Minister of Marine and Fisheries.

APPENDIX No. 4.

REPORT ON THE METEOROLOGICAL SERVICE.

METEOROLOGICAL OFFICE, TORONTO, 18th October, 1892.

WM. SMITH, Esq.,
Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to enclose herewith manuscript of twenty-second report of the Meteorological Service, this report being for the period 1st November, 1891, to 30th June, 1892, excepting appendices D and E for Quebec and St. John Observatories, which will be forwarded immediately upon their receipt at this office.

I have the honour to be, sir,
Your obedient servant,
CHARLES CARPMAEL,
Director.

REPORT ON THE METEOROLOGICAL SERVICE.

The Honourable
The Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith the twenty-second report of the Meteorological Service, this report being for the period 1st November, 1891, to 30th June, 1892.

Since the last report the following stations have been added to the list of observers:—

Ontario.

Class II.—
Fort Francis, Rainy Lake.....Jabez Williams.
Welland .....J. A. Gelcheise.
Class III.—
Barrie.....J. J. Gillam.

Quebec.

Class I.—
Lennoxville (Bishop's College), resumed after restoration of buildings.
Class II.—
Piastre Bay, Labrador.....E. Werner.

Newfoundland.

Class III.—
Channel.....R. H. Parsons.

North-west Territories.

Class II.—
Glenbow Ranche.....W. R. Moodie
Wallace .....Wm. Simpson.
Maple Creek (resumed).....Phil. Pidgeon.
Saskatoon.....H. Keenan.

British Columbia.

Class II.—
Nanaimo .....H. W. Good.

Class III.—
French Creek. .....W. H. Lee.

Correspondence has been opened with several parties in selected districts, with a view of obtaining observation with the co-operation of the Government of the province.

Instruments have been supplied to two clergymen who have proceeded to occupy stations in the McKenzie River district, also to Bishop Reeve who has gone to Fort Simpson in the same district.

The observers in Ontario under the Deputy Minister of Agriculture, Mr. C. C. James, M.A., and in Manitoba in connection with the Department of Agriculture, continue to fulfil the duties in a satisfactory manner, and as opportunity offered some of the more zealous have been supplied with registering thermometers and encouraged to make their work as complete as possible, but as other duties or the pressure of infirmity compels some to cease, it becomes a matter attended with some difficulty to obtain proper observers to take their places, and it might be a subject worthy of consideration whether a small stipend might not be a wise method of securing a permanent staff of observers in classes II. and III.

The stations on the line of the Canadian Pacific Railway owing to the repeated changing of the agents and the appointment of men new to any kind of observation causes considerable trouble from broken periods and renders necessary inspection at short intervals, as such instructions that may be required is better given personally to these men than conveyed by letter.

It is to be hoped that the Canadian Pacific Railway will extend these observations and see that they are regularly taken and in this will follow the examples mentioned by the Chief Signal Officer, U.S.A., in his report for 1890 where he says:—

"For the past twenty years the Central and Southern Pacific Railways have made monthly observations of temperature and precipitation. The foresight and enterprise exhibited by the officers of these roads have resulted in the accumulation of data which make the sections through which the lines pass better known climatologically than any other part of the country west of the 100th meridian. Not only have exact weather and temperature data enabled the company to successfully resist unwarranted claims for damage and demurrage, but such data have placed the intelligent managers in a position to forecast and forestall disastrous weather conditions in some instances and to take advantage of favourable conditions in other cases."

STORM SIGNAL SERVICE.

Several heavy storms visited the lakes and our eastern waters during the winter.

On the 17th of November a heavy gale occurred throughout the lake district beginning at first from the S.E., but soon veering to S.W. and N.W. Ample warning was given to the lake stations. The storm moved north-eastward and caused a fresh to heavy gale throughout Eastern Canada. In nearly every case was due warning given there.

A fresh to heavy gale began on the lakes on the 3rd of November which extended to the Bay of Fundy on the 5th. In every case with the exception of Port Arthur, were the signals ordered in good time.

Early on the 30th, the Maritime Province stations were warned for a heavy westerly gale and that night and on the 31st a heavy S.E. to S.W. gale prevailed both on the Atlantic coast and in the Gulf. There was also a heavy N.W. gale in the Bay of Fundy.

A severe storm occurred in the Maritime Provinces on the 11th and 12th of February accompanied by snow and sleet. All stations received good warning except Point Lepreaux, at which station the warning was late.

On the morning of the 18th March, a storm was developing off the coast of Virginia, when all Maritime Province stations were warned. That night a heavy easterly gale set in with sleet and rain.

TABLE No. 1.

The following table shows the total number of storm warnings issued and the percentage verified :—

Year.	—	—	—
1877	743	510	68·6
1878	860	673	78·3
1879	712	591	83·0
1880	889	736	82·8
1881	854	727	85·1
1882	841	658	78·2
1883	1,085	858	79·1
1884	798	663	83·2
1885	830	741	89·3
1886	906	799	88·2
1887	1,093	972	88·9
1888	897	758	84·5
1889	1,126	926	81·3
1890	1,199	987	82·3
1891	1,017	826	81·2
1892 (6 months—1st Jan. to 30th June)	289	228	78·9

WEATHER FORECASTS.

Weather forecasts have been published regularly throughout the period comprised in this report, both in the newspapers and at about 1,500 telegraph offices in Manitoba, Ontario, Quebec and the Maritime Provinces.

The demand from persons in Toronto, and at a distance, for special forecasts continues to increase, and in all cases predictions have been furnished at once to those asking for them. In June a dredge and barge belonging to the Public Works Department was towed up from Montreal to Goderich by the tug "John Pratt," Captain Howden. Although severe storms were frequent at the time, Captain Howden availing himself of telegrams from this office succeeded in reaching his destination in safety, and was only delayed one day owing to dangerous weather of which we had duly notified him.

Warnings of approaching snow storms, as heretofore, were issued to the railways. In the beginning of December the managers of the different railway companies were asked by circular whether they desired to have such warnings continued. All of them desired to receive them, and expressed their opinion of their great value.

Train weather signals as usual were displayed during the past summer on morning trains in the older provinces, and it is gratifying to be able to state that a great deal more care has been shown by the train hands in changing the signals.

The following table (No. 2) shows the predictions and the percentage of fulfilment in each district, in each month, and in the whole period :—

TABLE No. II.

NUMBER of Predictions and percentage of Fulfilment in each District, in each Month, and in the period November, 1891, to June, 1891, inclusive.

MONTHS.	MANITOBA.					LOWER LAKE REGION.					UPPER ST. LAWRENCE.					LOWER ST. LAWRENCE.					GULF.					MARITIME.					Total.				
	No. of predictions.	Verified.				No. of predictions.	Verified.				No. of predictions.	Verified.				No. of predictions.	Verified.				No. of predictions.	Verified.				No. of predictions.	Verified.				No. of predictions.	Verified.			
		No. fully.	No. partly.	No. not.	Percentage.		No. fully.	No. partly.	No. not.	Percentage.		No. fully.	No. partly.	No. not.	Percentage.		No. fully.	No. partly.	No. not.	Percentage.		No. fully.	No. partly.	No. not.	Percentage.		No. fully.	No. partly.	No. not.	Percentage.		No. fully.	No. partly.	No. not.	Percentage.
November.	91	69	13	9	83·0	114	93	16	5	88·6	108	82	17	9	83·8	101	81	11	9	85·6	109	92	12	5	89·9	112	84	16	12	82·1	635	501	85	49	85·6
December..	108	75	11	22	74·5	120	92	16	12	83·3	114	88	15	11	83·8	116	87	11	15	81·0	114	83	18	13	80·7	111	81	19	11	81·5	683	506	93	84	80·9
January...	98	72	13	13	50·1	116	86	24	6	84·5	107	69	30	8	78·5	96	66	20	10	79·1	89	52	25	12	72 5	100	60	24	16	72·0	606	405	136	65	78·1
February..	80	58	16	6	84·5	91	70	16	5	85·7	88	66	15	7	83·5	85	61	16	8	81 2	85	62	14	9	81·2	89	68	13	8	83·7	518	385	90	43	83·0
March.....	97	66	15	16	75·8	106	68	19	19	71·1	102	76	14	12	81·4	103	78	12	13	81·6	102	79	8	15	81·4	111	76	18	17	76·6	621	443	86	92	78·3
April.. ..	93	74	11	8	85·5	113	90	11	12	84·5	101	89	9	3	92·6	100	88	7	5	91·5	99	90	6	3	93·9	98	83	14	1	91·8	604	514	58	31	89·9
May	65	50	12	3	86·1	106	79	21	6	84·4	93	69	20	4	84·9	99	81	9	9	86·4	98	68	15	15	77·0	97	70	22	5	83·5	558	417	99	42	83·6
June ...	101	76	14	11	82·2	112	77	22	13	78·6	101	74	16	11	81·2	93	72	10	11	82·8	93	67	16	10	80·6	94	68	19	7	82·4	594	434	97	63	81·2
	733	540	105	88	80·8	878	655	145	78	82·9	814	613	136	65	83·7	793	614	99	80	83·7	789	593	114	82	82·4	812	590	145	77	81·6	4819	3605	741	470	82·5

CENTRAL OFFICE.

No changes have taken place in the staff of the office since my last report.

I would again call attention to the marked increase of office work over that of former years. As the observer's interest in the work increases and he seeks an enlargement of his work, this involves an increased amount of time necessary to supervise the returns themselves and to perform the reductions necessary to render the returns of any value, as in nearly all cases the volunteer observer considers it enough to simply enter the reading at the time of observing. As the enlarged tabular matter of the Monthly Weather Review requires this to be done monthly, it is sometimes difficult to keep up with current work.

The interest taken by the general public in the information obtained from the data collected is shown by the increased number of inquiries from legal, municipal and railway corporations, as well as private individuals. These inquiries, however, entail a large amount of extra work, which is increasing daily.

TIME SERVICE.

The method of performing this work, together with a table showing discordance at the different observatories will be found in the report on the Magnetic Observatory.

The report on Quebec Observatory forms Appendix D.

The report on St. John Observatory forms Appendix E.

VOLUNTARY OBSERVERS.

It is desirable to again draw attention to the indebtedness of this country to the many volunteer observers throughout its wide range, by whose assistance so much has been done towards interesting the public generally in a study of its varied climate, and it is much to be regretted that want of funds have necessitated a refusal from time to time to many requests for instruments, as the information given in our Monthly Weather Review is largely contributed by unpaid observers.

PUBLICATIONS.

Applications are frequently made by persons and institutions in different parts of the world for the publication of this office. Nearly 750 Annual Reports and over 800 copies of the Monthly Weather Review are distributed immediately upon their being printed.

LIBRARY.

There have been received at the Library during the eight months ending 30th June, 1892, one hundred and ninety-nine volumes treating on Meteorology, Astronomy and Terrestrial Magnetism, and also during the same period there have been received six quarterly, thirty-seven monthly and three weekly reports from observatories throughout the world, and also daily weather reports of England and India.

INSPECTION OF STATIONS.

There were 38 stations inspected during the period covered by this report. Of these, 4 were inspected by Mr. Payne, 21 by Mr. Stupart and 13 by Mr. Webber.

These reports form appendices A, B, C, and give the state and condition of the various places visited, and show the absolute necessity of regular and systematic inspection.

All of which is respectfully submitted.

CHARLES CARPMAEL,
Director.

METEOROLOGICAL OFFICE, TORONTO, 1892.

C. CARPMAEL, Esq., M.A., F.R.A.S., Director.

SIR,—I have the honour to submit the following report of the stations inspected by me from 1st November, 1891, to 30th June, 1892.

Collingwood, visited 19th April.—Signal mast required painting, which agent was ordered to have attended to at once. Dr. Stephen, the volunteer observer, wanted instructions about rainfall.

Barrie, visited 20th April.—Sunshine recorder required resetting in cement, and record cards to be properly placed. The new volunteer observer, Mr. J. J. Gillam, was away. The rain-gauge and thermometers were as well placed as the premises allow, and in good order.

Midland, visited 20th April.—Mast and signals were all in good order. Rain-gauge in new position selected on my last visit.

Orillia, visited 21st April.—Mr. H. W. Filton, who has been a faithful volunteer observer for the last 20 years, had all instruments in good order. A new rain-gauge is required. He offers to take maximum and minimum temperature observations if instruments are sent him.

I have the honour to be, sir,
Your obedient servant,
HUGH V. PAYNE,
Inspector.

METEOROLOGICAL OFFICE, October, 1892.

CHARLES CARPMAEL, Esq., M.A., F.R.A.S.,
Director of the Meteorological Service,
Toronto.

SIR,—I have the honour to submit the following report of stations inspected by me between 1st November, 1891, and 1st July, 1892.

Winnipeg, visited 23rd May.—Mr. Richardson, who for some months had had charge of observations at this place, was on the point of resigning the work to an observer soon to arrive from England. I therefore determined to visit Winnipeg again on my return from the west, in hopes then of being able to instruct the new man in his duty. The wet bulb thermometer was not properly adjusted, there being no muslin round bulb, and the wick carelessly tied on. I ordered the removal of the thermometer screen from an enclosed yard to a more favourable location.

Portage la Prairie, visited 24th May.—The observer, Rev. Finch, is an enthusiast as regards Manitoba temperature and smudge fires. He holds it to be usually quite possible to prevent any damage to crops from early frost by the proper use of the smudge. His thermometer screen was not well placed, there being no fence, the maximum temperature must, therefore, in the past have been rather on the high side. He promised to have a fence built without delay.

Minnedosa, visited 24th May.—The observer, Rev. J. M. Wellwood, away on leave, his wife and children taking the observations in a perfectly satisfactory manner. The thermometer shed is certainly in a poor position, being on a hillside pretty near the bottom: probably removal to top of the hill would be an improvement, but removal about half a mile back on the road running south-west from Minnedosa would be the proper change. Informed Mrs. Wellwood that some change must be made, and showed her two sites, either of which would do, according as whether they sold their house and moved out of the village, or simply removed the thermometer screen.

Indian Head, N.W.T., visited 26th May.—Thermometers and rain-gauge well exposed at the station. Mr. McKay does not think much of smudge fires and does not think they will ever be used at all generally.

Qu'Appelle, N.W.T., visited 26th May.—The thermometer fence by no means satisfactory; ordered that a carpenter be employed to make the necessary changes. Wind-vane not properly adjusted, it being some three points astray; everything else satisfactory.

Balgonie, N.W.T., visited 27th May.—Mr. Webb, the manager of the Kaye farm who was supplied with instruments last year, has as yet taken no observations and thermometer shed had not been placed in position. He promised me he would begin work on the 1st June.

Prince Albert, N.W.T., visited 29th May.—Mr. Flett away from home at Battleford; he is now inspector of schools for the district of Saskatchewan. Mrs. Flett informed me that all instruments had been removed to the railway station, and that nothing remained either at their house or at the college, and that Mr. Davison the Canadian Pacific Railway agent was to be the observer. Found that Mr. Davison, had placed anemometer and wind-vane on top of the station on a platform $2\frac{1}{2}$ feet above the ridge of the roof, and that the anemograph was recording aright except the directions which were easily rectified. The exposure is fairly good between east and west through north, about on a par with the old exposure at college. Ordered that platform be raised to 6 feet. Barometer had air in it, probably since Mr. Flett removed it from the college a fortnight before; it was reading 0·25 too low. Thermometer fence facing west, this I altered. Rain gauge well placed. Mr. Flett intends to nominally supervise the work at Prince Albert. It is absurd employing a man to do certain work and allowing him to farm the whole of it out to some one else.

Saskatoon, N.W.T., visited 30th May.—Thermometer well exposed. Comparison with standard showed that minimum was reading 1° too low.

Regina, N.W.T., visited 31st May.—Thermometer well exposed at Police barracks, readings taken by man on guard under supervision of Staff-Sergeant Lassevitz.

Swift Current, N.W.T., visited 2nd June.—Anemograph at this station not working, discovered that the spring contact maker in anemometer was broken, sent it to Toronto for repair. The anemometer erection on Mr. Knight's house far from satisfactory, it being very shaky; considered it useless making a change, as in a week or so Mr. Knight intended moving to a new house, on top of which he would place anemometer and wind-vane. Thermometer well exposed, also rain-gauge. Wet bulb thermometer not properly adjusted, fully instructed Mr. Knight as to how it should be managed. Made full comparisons of barometer and all thermometers with the standards.

Medicine Hat, N.W.T., visited 3rd June.—Very little comment necessary *re* this station. Mr. Drinnan is probably one of the best observers in the service. The thermometers are well exposed, also rain-gauge, wet bulb well looked after. Made full set of comparisons.

Calgary, N.W.T., visited 4th June.—Barometer at this station very dirty and hanging in an awkwardly constructed case on dark side of the room. I cleaned the barometer and subsequently, after my departure, Mr. O'Brien removed it to the other side of the room near a window and awaits a case. Thermometer screen in a satisfactory position, but rain-gauge seemed to have no abiding place; I ordered that it be placed in a permanent position. Made a full set of comparisons.

Edmonton, N.W.T., visited 7th June.—The new erection for anemometer is everything that it should be. I placed anemometer and wind-vane in position and led wires to anemograph in the observer's house, leaving it in good working order. The barometer is in a satisfactory place and thermometers and rain-gauge well exposed. Made a full set of comparisons.

Esquimalt, B.C., visited 11th June.—The barometer is hanging in a good position for reading. It required cleaning. Thermometer shed placed in a garden pretty well shut in by trees. Ordered the removal of rain-gauge to the other side of house, where there will be much less chance of its being sheltered by trees; in the old position it was practically sheltered from rain with even a moderate west south-west or west wind. The structure for the anemometer has been well finished off, the rigging having been done by men-o'-war's men and post and platform painted yellow ochre. The anemograph was not recording satisfactorily, the fault being in

the adjustment. I am rather inclined to think that temperature at Esquimalt is a very poor indication of temperature a mile or so inland; even Victoria would probably show a higher mean. Made a full set of comparisons.

Port Simpson, visited 19th June.—The observations of this station have during past year been taken by Mr. Clifford, the Hudson Bay Company's chief; an assistant clerk in the office whom I fully instructed in the work, will in future attend to the observing. The barometer is placed in a good light near a window, it had air in it and was reading 0·62 too low; abstracted air and cleaned barometer and left besides another which I had brought from Toronto. Thermometer fence is in a large field, and exposure everything it should be; rain-gauge is also well placed. The wind-vane and anemometer are in a poor position and records will not be very valuable, the exposure between west and north is the best, other directions are sheltered by high lands. Cistern of barometer is 31 feet above mean sea level. Made a full set of comparisons.

Nanaimo, B.C., visited 24th June.—The thermometer exposure here is quite satisfactory. Mr. Good, the observer, would like some more instruments, viz: ordinary thermometers and wind-vane, he has no exposure for an anemometer.

Vancouver, B.C., visited 27th June.—Wetham College is the site proposed for observations; interviewed Mr. Hill-tout, the master in charge, who said they proposed placing thermometers on the top of College on the flat roof, or in a backyard; the former position is, of course, quite out of the question and the latter is very poor, the plot of ground being only about 70 x 30 feet with a high brick wall running the long side. I consider colleges and schools rather indifferent observing stations at the best, the work is in the hands of too many people during the greater part of the year, and during vacation there is practically no one to do the work.

Port Moody, visited 27th June.—Mr. Elson sen., the observer for many years, has gone to another part of the province; his son had not taken any observations since April but agreed to continue them, taking the observation at 8 p.m., instead of noon.

Agassiz, B.C., visited 29th June.—Mr. Sharpe, the Superintendent of the Experimental Farm, does not observe himself but exercises a general supervision over the work done by the gardener. The thermometers and rain-gauge are well exposed.

Spence's Bridge, B.C., visited 30th June.—Neither of the barometers at this station required cleaning. Mr. Murray promised, that in future he would take the telegraph observations on Monday. The thermometers are well exposed on north wall of house. Rain-gauge was in a corner of the garden; I remonstrated with Mr. Murray for not having it fixed in a permanent and suitable position. He said it had been removed in order that the grass might be cut, and promised it should not occur again. Made a full set of comparisons.

I am, sir, your obedient servant,

R. F. STUPART,
Inspector.

Meteorological Office, Toronto, 1891-92.

C. Carpmael, Esq., M.A., F.R.A.S., Director.

Sir,—I have the honour to submit the following report of the stations inspected by me from 1st November, 1891, to 30th June, 1892.

Rockliffe, visited 8th December, 1891.—The barometer owing to faulty construction was useless. I substituted Green No. 3248. The measurement of snow had not been taken properly. Alterations have been made in exposure of thermometers, which is now very good.

Mattawa, visited 9th December, 1891.—Minimum thermometer No. 645 was out of order and was repaired. It replaces No. 72092 which was broken. Rain-gauge required setting level.

North Bay, 9th December, 1891.—Thermometer shed had been removed to station house. The minimum thermometer No. 989 was broken and was replaced by No. 72094. Rain-gauge thoroughly repaired. Everything is now in good order.

Pembroke, visited 13th December, 1891. No observations were being taken here, but Mr. Quinn, the agent, has promised to place instruments in position and start observing.

Renfrew, visited 14th December, 1891.—Mr. A. Wright continues to take the observations with great care. All instruments in good order. Thermometer shed will require slight repairs in the spring.

Woodstock, visited 22nd March, 1892.—The barometer required cleaning, which was attended to and is now reading correctly. The anemometer should be raised several feet higher above the dome. Anemograph clock required cleaning and thermometer shed, &c., painting.

Galt, visited 12th June, 1892. Thermometer shed and fence required repairing. Rain-gauge required new receivers. The exposure here is very good and instruments were in good order.

Sarnia, visited 14th June, 1892.—Found the signals at this station in poor order and that the work has been badly attended to by late agent. The mast is in a shaky condition and poorly placed. The town council have given a site on the Waterworks wharf, the best point a mast could be placed at. I would recommend Mr. McAdam, the harbour master, for the position of agent. Tenders asked for new mast.

Pelee Island, visited 16th June, 1892.—Signal lamp lenses cracked and do not keep alight well in high winds. Anemometer which had been damaged by lightning was replaced by a new one. The anemometer platform as well as signal mast required painting. Signals are reported to be of much value at Pelee Island.

Port Colborne, visited 17th June, 1892.—The mast required painting. The reports are not regularly forwarded. Mr. Hughes was informed a new agent would be appointed unless more attentien was paid to his duties.

St. George, visited 18th June, 1892.—Dr. Kitchen offered to take maximum and minimum temperatures, and instruments were therefore supplied. A new rain-gauge was also supplied, the old one being worn out. The exposure here is particularly good.

Saugeen, visited 20th June, 1892.—Anemometer connections were out of order; and were attended to; other instruments were all in good order. The signal-house, mast, anemometer platform and thermometer shed required painting.

I have the honour to be, sir,

Your obedient servant,

B. C. WEBBER,
Inspector.

MAGNETIC OBSERVATORY.

The Honourable
The Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to submit herewith the report on this observatory for the period 1st November, 1891, to 30th June, 1892.

During the above period the six daily magnetical and meteorological eye observations taken at 6 and 8 a.m., 2, 4, 10 p.m., and midnight, have been continued as usual. On Sundays, the hours of observations are 8 a.m. and 2 p.m. Absolute determinations of the magnetic elements have also been made—the self-recording declination, bifilar and vertical force magnetographs have been kept in operation, as also the barograph and thermograph.

Hourly measurements of the curves, with the exception of the vertical force, have been made and the results abstracted. We have now over 12 years of hourly readings tabulated, the daily and hourly means of which have been obtained. Continuous photographic records have been regularly kept up, the agreement being satisfactory.

TIME SERVICE.

The time exchanges with Montreal, Quebec and St. John have all been registered on the chronograph, at Toronto, the comparisons taking place during the afternoon or evening, as could be most conveniently arranged with the Telegraph Company for use of wire.

The errors of the Toronto clock, and the time-pieces used by the observers elsewhere, are computed from the latest observations.

The examination of the monthly clock, and chronometer comparisons and transit observations, sent in from the observatories at Quebec and St. John, has been performed.

During the eight months covered by this report the time at this observatory was obtained from observations of 299 stars and 4 solar observations. The latter having been taken to check the error of the clock when the nights have been too cloudy for stellar work. The position of the stars used in the reductions are from the "Berliner Yahrbuch." The collimation error of the transit instrument has been frequently determined from micrometrical measurements on the collimating telescope and by reversals on "Polaris" and other stars.

The following table shows the difference between the time by standard observer and that given at the various exchanges.

The sign + indicates that the time as sent from the various observatories is faster than that by the standard observer.

——	Toronto.	Montreal.	Quebec.	St. John.
1891.	Secs.	Secs.	Secs.	Secs.
November 13	+0·34	−0·34	+0·53	−0·99
December 2	+0·06	−0·06	0·00	−1·96
do 22	+0·10	−0·10	+0·03	−2·93
1892.				
January 7	+0·36	−0·36	+1·06	
February 5	+0·48	−0·48	+0·16	+0·46
March 3	−0·31	+0·31	−1·21	−0·75
do 21	−0·36	+0·36		
do 31			−1·06	
April 7				−66·77*
do 27	+0·29	−0·29	+0·14	
May 13	−0·18	+0·18	−0·21	−1·46
do 31	+0·07	−0·07	−0·49	
June 10	+0·03	−0·03	−4·84	
do 13				−0·48

* The St. John transit was destroyed by fire on the 20th of March. The clocks being saved were re-started as soon as possible. This accounts for the extraordinary difference.

The time by standard observer is obtained by taking the arithmetical mean of the times as determined at Toronto and Montreal, after applying the personal equations between the observers and the director of the Magnetic Observatory, whose absolute equation is known to be almost insensible.

NOTE.—Where no exchange has been made with Montreal the Toronto time, corrected for its observer's personal equation is adopted as standard time for the comparisons with Quebec and St. John.

All of which is respectfully submitted.

I have the honour to be, sir,

Your obedient servant,

CHARLES CARPMAEL,

Director.

REPORT OF KINGSTON OBSERVATORY.

KINGSTON OBSERVATORY, 24th October, 1892.

SIR,—I have the honour to report for the information of the Minister of Marine and Fisheries, that since last report the new filar micrometer for the transit, and ring micrometer for the equatorial, have been received from Messrs. Fauth & Co. They have given me every satisfaction, and are very creditable to the workmanship and skill of their makers.

Standard time has been given to the city and shipping throughout the year, and admission to the observatory to view the instruments has at convenient times been made available to citizens and strangers. Frequent observations of the number and phenomena of the sun spots, of Mars and Jupiter in their recent oppositions to the sun, of eclipses, and of nebulæ and double stars, have throughout specially occupied the attention and formed part of the work of the observer.

The instruments, with the clocks, are all in perfect order. Some small necessary repairs have been made during the year in the roofs of the transit room and dome.

I am, sir,
Your most obedient servant,
JAS. WILLIAMSON,
Director.

REPORT OF McGILL COLLEGE OBSERVATORY FOR THE YEAR ENDING 31ST OCTOBER, 1892.

MONTREAL, 29th October, 1892.

The Honourable
The Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to present the Report of this Observatory for the past year.

Meteorological Observations.—The usual meteorological observations have been continued without interruption, and the results have been published in the Montreal *Gazette* and *Canadian Record of Science.*

Time Service.—Determinations of clock errors were made on eighty nights by the observations of 450 stars, in addition to the large number of observations made in connection with the longitude determination which were rendered available in the management of the time service. The transit house has been enlarged, giving the desired accommodation for longitude work. During the progress of the work of enlargement, our clock corrections were obtained by frequent exchanges with the Toronto Observatory.

Longitudes.—The observations required in the re-determination of our longitude by direct connection with the Royal Observatory, Greenwich, have been successfully completed, as described in a special report.

General.—The usual large number of applications for information have been received and answered during the year.

The observations of sun spots and of soil temperatures have been continued, as described in former reports.

I have the honour to be, sir,
Your obedient servant,
C. H. McLEOD,
Supt. McGill College Observatory.

REPORT OF ST. JOHN OBSERVATORY,

St. John, N.B., 31st October, 1892.

Charles Carpmael, Esq., M.A., F.R.A.S.,
Director of the Meteorological Service of Canada,
Toronto, Ont.

Sir,—I have the honour of herewith presenting the report on this Observatory for the year ending 31st October, 1892.

The chief station routine of Meteorological Observations have been continued as heretofore.

The time service has received careful attention ; observations of stars with the transit instrument for the correction of clock errors and rates have been made at frequent intervals. The daily signal has been given as usual by dropping time ball at 1.00 p.m. local time.

The city fire alarm bells are struck at 1.00 p.m. by the superintendent of the fire alarm service making contact with the key in his office the instant he observes the ball drop.

The time service was temporarily discontinued owing to the fire in Customs buildings, 19th March last. The Government secured the Pugsley Building and temporary quarters for the Observatory were at once fitted up.

A small transit-house was built on the adjoining roof directly over one of the vaults, and the pier carried through the roof. Upon the completion of the house I at once mounted the transit instrument and commenced observing for time.

After considerable delay the temporary staff for time ball, storm and flag signals was erected on top of Post Office Building. Before this staff was erected, ship masters and others called at the Observatory for the time.

I regret the loss of the transit instrument in the fire and made every exertion to save it, but after several attempts to approach the transit-house had to give it up. An old Troughton and Simms transit instrument was very kindly loaned by Mr. A. B. Smalley, of this city, for temporary use.

I succeeded in saving the clocks, chronometer and other instruments, also the tide gauge and barograph which were stored in the Observatory. Owing to the office being on the top floor it was difficult to obtain assistance in removing the instruments. I was, however, most willingly and ably assisted by some members of the St. John Salvage Corps.

The anemometer and wind vane on top of ball tower were uninjured and were removed after the fire and placed at a good elevation on the Pugsley Building.

I have the honour to be, Sir,
Your obedient servant,
(Signed) D. L. HUTCHINSON,
Director.

REPORT OF QUEBEC OBSERVATORY.

Quebec, Que., 15th October, 1892.

To the Director, Meteorological Service,
Toronto.

Sir,—I have to submit the following report on this observatory for the past year.

There has been no change in connection with the duties during this period.

A communication was received and forwarded you from the military authorities at the Citadel, asking for the transfer of the old observatory buildings there to them. This I strongly recommended at the time, pointing out that the buildings were in a

dreadful state of repair and that the transfer would in no way interfere with the "Time Service." If this transfer is not about to be carried out, it will be absolutely necessary to have sufficient repairs made to protect the electrical instruments, used in connection with this service, from the weather during the coming season.

I am, &c.,

W. A. ASHE, *Director.*

TIDAL SERVICE.

METEOROLOGICAL OFFICE, TORONTO, 31st October, 1892.

The Honourable
The Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith the report on the Tidal Service from 31st December, 1891, to the 30th June, 1892.

The working up of the observations already taken was proceeded with.

Three additional tide gauges have been ordered from Mr. J. White, of Glasgow. One of these it is proposed to place at Levis dry dock. The others I would suggest should be used in the Gulf of St. Lawrence, one probably on the Magdalen Islands and the other on St. Paul's Island.

The tide-house and box for placing at South-west Point, Anticosti, were constructed at Quebec.

The work at Father Point was found much more difficult than was anticipated. Owing to the charactor of the rock, blasting has but little effect, and it was found that it would cost more than double what had been estimated. Accordingly the work was suspended to see whether some cheaper method of construction could not be found. The great difficulty to be guarded against in this case is the danger of the observations being interfered with by frost.

At St. John the difficulty with respect to the site was not settled as expected, and accordingly nothing could be done until after the close of the fiscal year. I may add that since the close of the fiscal year the work has been pushed forward, although, owing to a storm having destroyed the erection for carrying the gauge at South-west Point, Anticosti, the only one of the three gauges, already received from the makers, which will be in operation during the coming winter, will be that at St. John, N. B. Full particulars of the work performed this summer will be given in my next report.

CHARLES CARPMAEL.

CLIMATOLOGY.

METEOROLOGICAL OFFICE, TORONTO, 31st October, 1892.

The Honourable
The Minister of Marine and Fisheries,
Ottawa.

SIR,—Early in the past fiscal year there was some correspondence between this office and the department regarding the accumulation of climatological data in this office, and it was suggested that a work on the climatology of the Dominion should be prepared, from existing data. It is very desirable that this work should be proceeded with, and I would respectfully suggest that provision should be made for it in the supplementary estimates.

CHARLES CARPMAEL.

APPENDIX No. 5.

REPORT OF THE CHAIRMAN OF THE BOARD OF STEAMBOAT INSPECTION FOR THE YEAR ENDING 31st DECEMBER, 1892.

CHAIRMAN'S OFFICE, OTTAWA, 31st October, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith my annual report for the year ending the 31st December, 1892.

Before entering into the proceedings of the year, will refer to steamboat inspection generally, "its causes of being, and its results." A short time previous to the passage of the Act requiring the inspection of steamboats, the attention of the Government was called to the necessity of skilled inspection of steamboats, by the perilous position the members of the Government, including the late Premier Sir John A. Macdonald, were placed in while passengers on the steamer "Ploughboy" on Georgian Bay by the breaking down of her machinery when on a lee shore, and by a disastrous explosion of a new boiler in a steamboat at Montreal, resulting in the passing of the first Steamboat Inspection Act for the Provinces of Ontario and Quebec in the year 1859, 23 Victoria, chapter 28, and was amended from time to time until 1868, when a new Act was passed on the 22nd of May for the inspection of steamboats in the Dominion, under which inspectors were appointed for different districts, who formed a board presided over by a chairman, selected by His Excellency from among the members of the board. This Act has been amended as found necessary under the continued changes and progress made in the building of steamboats and their machinery, and to meet the increase of the volume of business done by them, the number of inspectors in 1868 was six, and the number of steamboats inspected in the Dominion during 1868 was 391. The number of inspectors now (1892) is 15, and number of steamboats inspected, 1,124.

There being no provision in the Acts up to 1882 to authorize the inspector to limit the number of passengers, or interfere in the management of a steamboat as regards loading, resulted in several casualties due to overloading, or to improper loading, until in 1881 the disaster on the River Thames at London by the upsetting of the steamer "Victoria," caused by an overload of passengers, led the Government to pass the Steamboat Inspection Act of 1882, imposing heavy penalties on the master and owner for carrying more passengers than allowed in the certificate of inspection on their steamboat, and creating inspectors of hulls and equipment giving them power to limit the load to be carried, relieving the boiler inspectors of the inspection of hulls and equipment formerly done by them.

Since the Act of 1882 was passed there have been no disasters due to overloading of passengers, and fines have been inflicted on a number of masters and owners for carrying more passengers than named in the certificates of inspection of their steamboats.

Improvements in the construction of boilers and machinery of steamboats, and the use of higher pressures coming with these improvements, made necessary frequent alterations to the mode of their inspection, and in order to meet the cases promptly as they occurred, an Act was passed in 1889 authorizing the required regulations for the inspection of boilers to be made by Order in Council. This has proved so satisfactory that a similar Act, 55-56 Victoria, chapter 19, was passed on the 10th of May, 1892, which by proclamation of His Excellency came into force on

the 15th day of August, 1892, authorizing regulations for the inspection of boats, life-preservers and other life-saving appliances, under which, rules and regulations were recommended by the board of steamboat inspection for the inspection of boats, life-preservers and other life-saving appliances, and came into operation on the 15th day of August, 1892, by Order in Council dated the 2nd day of August, 1892.

Amendments were also made to the rules already in force for the inspection of boilers and machinery, compasses and testing of new engines on steamboats under steam.

Section 9 of the Act 55-56 Victoria, chapter 19, is substituted for section 53 of the Steamboat Inspection Act, chapter 78, repealed, in reference to the inspection and equipment of a barge, or any boat, bateau, scow or undecked vessel having passengers on board and in tow of a steamboat, under which provision rules for the inspection of such vessels were recommended by the board and approved by His Excellency in Council on the 2nd day of August, 1892, coming into force on the 15th day of August last.

The advantages of steamboat inspection annually by the Government are principally (as intended) in the greater safety of life to those on board of steamboats either as passengers or crews, in proof of which during the ten years just before the first Steamboat Inspection Act was passed, when there were few steamboats in Canada, four disastrous explosions of Canadian steamboat boilers occurred involving great loss of life amounting in one case to about thirty persons, and during the 34 years since the Government took up the inspection of steamboats there has been but a single case of explosion of a Canadian steamboat boiler reported, that of the tug "St. George" while lying at a wharf in Carleton, N.B., in 1873, the engineer was killed and the coroner's jury "did not know the cause of the explosion."

The explosion on the steamboat "Richelieu" in 1883 was of the "heater" (not the boiler), caused by the ignorance of the engineer, by which five persons were killed. Such an occurrence cannot be guarded against where an incompetent engineer is in charge, and the explosion of the "Erie Belle," killing four persons near Kincardine in 1884, was that of an old American built tug which had been recently registered in Canada, but was running without a certificate of inspection, and with an unlicensed engineer in charge. Such cases as these show the necessity of strict enforcement of the law, and that the utmost vigilance of the master, owner, inspector and engineer is required under the high pressures and intricate machinery now in use on steamboats, and with the great increase in number of steamboats and number of persons carried by them.

The benefits to the public in the way of safety are easy to comprehend, and financially, the owner is also a gainer, as the inspectors are in the relation to him of supervising engineers and shipwrights, who at a small annual cost to him see that his steamboat throughout is kept in good condition, and are a convenient body of experts to consult, whose interests are one with the owners to have their steamboats safe and sound, and whose best advice is to be had by the owners at all times without the usual cost entailed by calling in an expert.

The Government of the United Kingdom, with nearly all the British possessions and colonies, the United States of America, and Kingdom of Norway, have steamboat inspection laws which are similar to the Canadian, except Norway, where the inspectors are not all experts, three persons forming a commission of survey for a district, one of whom is an expert, all appointed by the King, or the Chief of Police may appoint three persons where there is no fixed commission. Surveyors are paid by fees, and anyone appointed may be compelled to serve one year.

In compliance with your instructions of the 11th of March last, that instead of appointing another boiler inspector at Toronto, the chairman should make Toronto his headquarters "for three months at busiest season," I proceeded to Toronto on the 26th of March.

BOARD MEETINGS.

There being a quorum of the board composed of Captain T. Harbottle, hull inspector, and P. James Johnston and John Dodds, boiler inspectors, with the

chairman at Toronto, meetings were held whenever necessary, without expense to the Government, and sessions of the board were held 28th March to the 6th of April inclusive, when two candidates for the office of steamboat inspector were examined. Rules for the inspection of steamboat boilers and machinery, and superheaters on steamboats, also rules for the inspection of boats, life-preservers, and other life-saving appliances, were read at this session of the board.

The board met on the 9th May to the 14th May inclusive, to examine Mr. Wm. Lawrie for the office of steamboat inspector, at Montreal, made vacant by the superannuation of Mr. John Burgess, who had become unable through illness to any longer perform the duties of steamboat inspector. Mr. Lawrie passed a satisfactory examination but declined to assume the office. Another candidate for the same office was also examined. There were also four engineers passed for engineers' certificates.

The board met 13th June and passed the rules for the inspection of steamboat boilers and machinery, and for the life-saving equipments of steamboats, read at a previous meeting.

A session of the board was held 20th to the 23th of June to examine a candidate for the office of steamboat inspector.

A final meeting from the 12th to the 16th of July inclusive, examined Mr. George Taylor Clift and Mr. Charles Edwin Robertson, candidates for the office of steamboat inspector, both of whom passed a satisfactory examination, and Mr. Clift was appointed by Order in Council dated 27th August, 1892, inspector of boilers and machinery at Montreal, at a salary of $1,000 per year, and required to reside at Montreal, he assumed the duties of the office on the 6th of September, Mr. Burgess having attended to the office business up to the 6th of September, although unable to do inspections on steamboats. There were also examinations of engineers passed for certificates, all the proceedings of the board having been reported to the department when completed.

The position of inspector formerly held by Edmund R. Abell should be filled and I recommend that an inspector be appointed before the opening of navigation in 1893.

AMENDMENTS TO THE ACT.

The Steamboat Inspection Act requires slight amendments in the wording. I recommend:—

1st. Add to subsection 2, section 1, chapter 78, the words, "Any steamboat carrying passengers," (as defined by section 1 (*k*) of the Act 54-55, chapter 39) "is a passenger steamboat in the meaning of the Act."

2nd. Add after the word "yachts" in the first line, section 4, the words, "of over three tons gross."

3rd. Amend section 43 by substituting the word "Minister" for the word "Board" in the fifth line.

PROSECUTIONS.

Prosecutions for violations of the Steamboat Inspection Act have been concluded as follows:—

The owner of the steamboat "Mansfield," of Ottawa, was fined $100 or in default of payment one month in jail, on the 3rd of October, 1892, before Mayor Durocher and Alderman Morris, justices of the city of Ottawa, for employing an engineer on his ferry steamboat "Mansfield" the person so employed and acting as engineer not having an engineer's certificate.

The owner of the same steamboat was again fined $100 or ten days in jail in default, for a similar offence on the 19th of October, 1892, before Judge Ross at Ottawa.

One of the persons employed as engineer unlawfully by the owner of the "Mansfield" was also fined $100 or one month's imprisonment in default, before Mayor Durocher and Alderman Morris, of the city of Ottawa, on the 10th of October, 1892.

Information was laid against another person, Henry Pratt, for acting as engineer on the steamboat "Mansfield" without being in possession of an engineer's certificate, but although summoned he did not appear before the court, and the magistrates declined taking up the case in his absence. It was afterwards learned he had left the country.

The owner of the steamboats "E. G. Laverdure" and "Emile" who also owns the barge "Thousand Island Rambler" (the hull of an old steamboat), was fined $20 with $5 costs, with ten days' imprisonment in default, in each of two cases of towing the barge with passengers on board, said barge not having an inspector's certificate allowing her to carry passengers.

The masters of the above-named steamboats were also each fined $20 without costs, or ten days' in prison if defaulters in payment, for towing the barge with passengers on board in violation of law. These cases were tried by Judge Ross at Ottawa on the 13th October, 1892.

The steamboat "Macassa," of Hamilton, was fined $50 at Toronto before the Police Magistrate on the 18th of August, 1892, for carrying more passengers than allowed by her certificate of inspection.

The freight steamboat "Agnes," of Vancouver, B.C., was fined, on the 19th July at the Police Court, Vancouver, $100 for carrying passengers, not being certificated as a passenger steamboat,

The steamboat "Red Star No. 1," or "Okanagon" was fined $50 on the 22nd September for carrying passengers on Okanagon Lake, British Columbia, the vessel not having a passenger certificate.

There are prosecutions now pending in reference to the steamboats "Nell" and "Thistle," in British Columbia, for not having certificated engineers as required by law.

The prosecution of the steamboat "Iona" in British Columbia for carrying passengers in violation of law is also pending, as are also the cases of the "Ed. Davis" in Quebec, and "Dauntless" in Ontario.

CASUALTIES.

I regret to have to report the loss of five lives on steamboats in the Dominion, one by the collision and sinking of the "Celtic" on Lake Erie, when the cook was lost, one by the burning of the "Glengarry" at Kingston, when the cook was burnt, and three by the foundering of the steamboat "Standard" in a gale off Cape Mudge in British Columbia, when the master, deck hand and cook were lost.

Ontario Division.

The steamboat "City of London," of Port Stanley, was destroyed by fire at London, Ont., on the 21st March, 1892.

The "W.S. Ireland" was partially burned at Wallaceburg on the 10th of April; loss about $2.500. She has been repaired.

The "Celtic," of Hamilton, was sunk in a collision with the "Russia" of Buffalo, near Rondeau, Lake Erie, on the 1st May; one person (the cook) was lost; vessel total loss.

The wrecking tug "Saginaw," of Montreal, was partially burned at Windsor, Ont., 9th May. She was repaired, and is again running.

The fishing tug "Prowett Beyer," of St. Catharines, was burned at Ridgeway on the 18th of June.

The tug "Kincardine," of Goderich, stranded near Cabot's Head, Georgian Bay. Total loss.

The "Dixie," of St. Catharines, collided with the "Belgium" of Buffalo. The "Dixie" sank, a total loss.

The ss. "Algonquin," of Port Arthur, burned her furnaces and lost her rudder on the 29th September, on the voyage from Fort William to Kingston. She was towed to Kingston, where she is being repaired.

The "Starlight," of Windsor, burned 1st October at Webbwood. Total loss.

The "Isabella," of Toronto, burned at Belle Ewart, 13th October. Total loss.

The "Interocean," of Collingwood, burned 13th October at Sarnia. Total loss.

Kingston Division.

The steamboat "Glengarry" broke her crank-shaft when approaching lock 6, Welland Canal, on the 21st of May, was towed to Kingston, and while undergoing repairs was burned on the 2nd of June, damaging machinery and hull to the value of $16,000, and loss of the cook's life.

On the 6th of June the "Spartan" broke the gib and key of crank-pin end of connecting rod, when opposite to Brighton, Lake Ontario, and was towed to Kingston for repairs.

29th July the "Chieftain" cracked the cross-head of her engine, which was replaced by a new cross-head.

On 2nd August, the "Princess Louise," with about thirty passengers on board, collided with the tug "Rescue" between Picton and Deseronto at 9 p.m.; the "Princess" sank near the shore; no lives lost; damage to the steamboat "Louise" about $2,000; she has since been raised.

On 8th August, the "Maud" broke her shaft when approaching the wharf at Kingston. She was repaired.

On 9th September, the "Corsican" broke her air-pump lever on Lake Ontario. She was towed into Kingston and laid up.

On 26th September, the "North King," on a voyage from Charlotte, U.S., to Port Hope, broke her air-pump bucket and bent the rod. She was run back to Charlotte non-condensing and repaired.

Montreal.

The steamboat "Corinthian" was burned to the water's edge at the foot of the Cedar Rapids She was carrying passengers between Toronto and Montreal.

Quebec.

On 5th May, the "Miramichi," of Quebec, carrying passengers, broke her shaft; no other injury.

On 14th May, the "Montmagny," of Quebec, broke her cross-head.

On 15th May, the tug "Flora," of Quebec, while in tow was burnt to the water's edge.

On 16th May, the "Orleans" broke her shaft between Lévis and the Isle of Orleans.

On 21st May, the steamboat "South," of Quebec, a ferry, collided with the steamboat "Quebec," sustaining very little damage.

On 21st May, the "Quebec," of Montreal, in collision with the ferry "South," sustained very little damage.

On 16th August, the "Brothers," of Quebec, broke her crank-pin.

On 20th August, the "Paul Smith" broke her crank-pin, coming down the rapids.

On 9th September, the "Passport," of Montreal, broke her air-pump lever.

On 20th September, the "Columbian," of St. Johns, Newfoundland, while coming down the Cedar Rapids, broke her rudder-chain and stranded; passengers and crew all got ashore safely.

On 30th September, the "Asilda," of Quebec, had one of her large flues burned, while at anchor with the fires banked, the water having ran out of her boiler.

On 22nd September, the "Chambly," of Montreal, collided with the tug "Hudson," of Montreal, and had her bows smashed, but no person was hurt.

Maritime Provinces Division.

December 29, 1891.—The steamboat "William," of Charlottetown, P.E.I., ran ashore at St. Pierre-Miquelon, and became a total loss.

March 1, 1892.—The "Flushing" between St. John and Eastport broke a crank web; got a new one at St. John.

August 4. The "Worcester" lost her rudder and rudder-post by striking on a rock near Canso, while on a voyage from Halifax to Prince Edward Island; she was towed to Pictou and repaired.

August 22.—The tug "Admiral" while towing logs in Grand Bay, N.B., broke her beam, two slides, and cylinder cover; was repaired at St. John.

August 22.—The "Government" steamboat "Newfield" broke anchor and stranded near Cape Jack Light; was floated off, and received temporary repairs at Port Hawkesbury. This steamer is now undergoing repairs at Halifax.

September 6.—The "David Weston" on passage from St. John to Fredericton, N.B., ran on a sunken snag-broke a paddle-wheel, and was towed to St. John.

September 19.—The "Carroll" was towed into Booth Bay with crank-pin broken.

September 20.—The tug "Kingsville" in St. John Harbour broke her crank-shaft, piston, and cylinder cover.

Manitoba, Keewatin and North-west Territories Division.

There are no returns of casualties from this division, the inspector having been dispensed with on the 14th October, 1892, by Order in Council.

British Columbia Division.

The "Yosemite" on the voyage from New Westminster to Victoria on the 21st January broke her main cross-head on starboard side; she proceeded slowly and arrived safely, and was fitted with a new cross-head.

The "Lepic" stranded on rocks at entrance to Bickley Bay, Thurlow Island, on the 26th March; she was raised on the 3rd of April and towed to Vancouver. Hauled out on ways, repaired, and inspected 7th May.

The "Belle" when towing logs in Malaspina Straits, broke the key and gib in bottom end of connecting rod, the piston and cylinder of forward engine were broken; was repaired at New Westminster.

The "Standard" on her voyage from Victoria to Standard Cannery, Skeena River, foundered in a gale off Cape Mudge, on the 18th of June, the vessel a total loss, with the lives of the master, deck hand and cook; the engineer was saved.

The "R. P. Rithet" broke her main shaft when coming to the wharf at Victoria; it was repaired.

The "Eva" struck a rock at the entrance of Gardiner's Inlet, filled and sank in deep water; total loss; all hands saved.

The "Delaware" broke her main shaft on the 12th August, on the voyage from New Westminster to Chilliwhack; she was towed to Vancouver and a new shaft fitted.

The "Skidegate" got ashore at False Creek, Vancouver, on the 28th August; when the tide went out she capsized, she was righted up, taken to dock, repairs made and inspected.

Tables A, B, C, D, show the number of steamboats reported in the Dominion, and in each inspection division subject to inspection, with their gross tons, amount of inspection dues and fees collected, the decrease or increase of totals, as compared with last year, with the number of steam vessels added.

There is a decrease in the collection, as compared with last year, but there will be more collections and inspections made before the end of the year, and the collections should be in excess of last year as the gross tonnage on which collections are made is in excess.

Section 9 of the Act, chap. 78, provides that if the chairman "suspects any inspector of having neglected his duty in relation to such steamboat, or in any other respect, he may call a meeting of the board to investigate the case, or may himself investigate it."

This course was followed by my predecessor, and I would recommend it should be followed in the future, with the approval of the Minister in each case. In the

United States the supervising inspector visits in each district regularly every year, and I believe it would be advisable in the interest of the service, to follow a similar course here as occasion appeared to demand.

I have the honour to be, sir,
Your most obedient servant,
W. J. MENEILLEY,
Chairman Board of Steamboat Inspection.

A.—NUMBER of Steam Vessels inspected and not inspected, reported by the Inspectors in the Dominion, and their gross tonnage, during the Year ending 31st December, 1892.

Divisions.	Number of Vessels.	Gross Tonnage.
West Ontario, Huron and Superior	342	71,582·00
Kingston	146	17,836·31
Montreal	79	12,237·55
Quebec	170	47,873·00
Maritime Provinces	208	36,638·16
Manitoba, Keewatin and North-west Territories	50	5,820·00
British Columbia	129	18,920·00
Total	1,124	210,907·02

B.—DUES and Fees collected on account of Steamboat Inspection, during the Year ending 31st December, 1892.

Divisions.	Amount.
	$ cts.
West Ontario, Huron and Superior	7,021 93
Kingston	2,144 73
Montreal	713 98
Quebec	4,675 44
Maritime Provinces	3,151 72
Manitoba, Keewatin and North-west Territories	242 92
British Columbia	1,937 20
Total	19,887 92

C.—NUMBER of Steam Vessels with their gross tonnage, and amount of Tonnage Dues and Inspection Fees collected during the Years 1891 and 1892, showing the increase and decrease in 1882.

Year.	Number of Steamboats.	Gross Tonnage.	Inspection Dues and Fees.
			$ cts.
1891	1,162	208,777·74	21,558 16
1892	1,124	210,907·02	19,887 92
Decrease	38		1,670 24
Increase		2,129·28	

D.—Steam Vessels added to the Dominion during the Year ending 31st December, 1892.

Divisions.	Number of Vessels.	Gross Tons.	Registered Tons.
West Ontario, Huron and Superior	18	2,592·00	1,729·00
Kingston	4	973·47	604·18
Montreal	3	3,591·59	2,298·23
Quebec	5	397·80	253·38
Maritime Provinces	20	2,547·61	1,295·73
Manitoba, Keewatin and North-west Territories			
British Columbia	14	2,687·58	1,781·07
Total	64	12,790·05	7,961 59

APPENDIX No. 6.

REPORT OF THE CHAIRMAN OF THE BOARD OF EXAMINERS OF MASTERS AND MATES.

HALIFAX, N.S., 11th October, 1892.

SIR,—I beg to submit the report of the proceedings of the Board of Examiners of Masters and Mates, from the 31st of October, 1891, to the 30th June, 1892, the end of the fiscal year.

The board met for examinations as follows :—

Port of Halifax	8 times.
do St. John	6 do
do Yarmouth	6 do
do Quebec	2 do
	22 times.

At Halifax 16 applications were made to the board for foreign-going certificates as masters and 2 for coasting; 13 received certificates and 5 failed.

Nineteen applications were made for mates' certificates; 12 received certificates and 7 failed.

At St. John there were 7 applications for masters' certificates foreign-going and 2 coasting; 4 were successful and 5 failed.

Twelve applications for mates certificates; 7 received certificates and 5 failed.

At Yarmouth 10 applications were made for masters' certificates foreign-going and 1 for coasting; 10 passed and 1 failed.

Ten applications for mates' certificates foreign-going and 1 coasting; 6 were successful and 5 failed.

At Quebec 4 applications were made for masters' certificates and 4 passed.

It will therefore be seen that during the eight months ending 30th June, 1892, 42 applications for masters' certificates of competency and 42 for mates were made.

Thirty-five masters were granted certificates, and 25 mates. Fourteen service certificates were issued for masters and 4 for mates, also 10 renewal certificates.

The total number of certificates issued by the Department of Marine and Fisheries, including competency, service and renewal, was 88 and fees to the amount of $627.50 were collected.

This does not include coasting and inland certificates granted by the department after an examination at any other ports, but those above mentioned.

Amongst these applicants some have presented themselves for examination either for master or mate, a second or third time, having failed at previous examinations.

The names of these candidates appear upon the books as often as they come forward for examination.

They are, however, permitted to have a second trial without paying another fee, but at each successive examination after that, they are required to pay the full fee.

A circular was issued last year by the British Board of Trade, which came into operation in October, 1891, requiring all candidates for masters' certificates of competency foreign-going to pass an examination in the Deviascope, and three of the ports were supplied with models to show the action of magnets and the induced magnetism in vertical and horizontal soft iron upon the compasses of iron ships.

Candidates were accordingly examined as to their knowledge of the means of determining the amount of deviation upon each point of the compass and the tentative method of correcting the error caused by the attraction of the various kinds of iron in a ship.

I regret to say that very few officers have been successful at this examination.

It may be attributed to the very little opportunity these candidates have had of studying the matter, some of them never having seen a Deviascope before.

I hope in the future to be able to report more satisfactorily, as all the instructors are now in possession of Deviascopes.

I desire to call your attention to the fact that Canadian officers can present themselves for examination at all ports in Great Britain where there is an examining officer, or in any of her colonies.

A British-born subject, however, has not the privilege of doing so in Canada, unless he has been domiciled in the country for three years.

This has caused a little feeling amongst British-born subjects and put many officers to inconvenience and expense.

Officers who have by authority not been permitted to come up for examination here, have been compelled to proceed to England, where they have passed successful examinations shortly after their arrival, and even foreigners who have served a period less than three years in a British or Canadian vessel, have passed their examinations in Liverpool and London.

I have the honour to be, sir,

Your obedient servant,

W. H. SMITH,

Chairman.

RESULTS of the different Examinations.

PORT.	MONTH.	APPLICANTS.		PASSED.		FAILED.		FEES.
		Masters	Mates.	Masters	Mates.	Masters	Mates.	
								$ cts.
Halifax	November	4	2	3	.....	1	2	50 00
St. John	"	1	4	.....	2	1	2	25 00
Yarmouth	"	.....	2	.....	1	.....	1	5 00
St. John	December	2	1	2	1	.....	.....	15 00
Halifax	"	.....	3	.....	3	.....	.....	5 00
Yarmouth	"	3	1	2	.....	1	1	30 00
*St. John	January	1 Coast.	2	1 Coast.	1	.....	1	23 00
Halifax	"	1	3	.....	1	1	2	25 00
Halifax	February	2 Coast	.....	1 Coast	.....	1 Coast.	.....	16 00
St. John	"	1F. 1C.	1	1F. 1C.	.....	.....	1	15 00
Yarmouth	"	3	1	3	.....	.....	1	25 00
Quebec	"	3	.....	3	.....	.....	.....	30 00
Halifax	March	5	2	4	2	1	.....	40 00
Yarmouth	"	1F. 1C.	3F. 1C.	1F. 1C.	2F. 1C.	.....	1	32 00
St. John	April	2	2	2	2	.....	.....	25 00
Halifax	"	3	3	2	1	1	2	35 00
Yarmouth	"	.....	3	.....	2	.....	1	5 00
Halifax	May	.....	5	.....	5	.....	.....	20 00
St. John	June	1	2	1	1	.....	1	20 00
Quebec	"	1	.....	1	.....	.....	.....	10 00
Yarmouth	"	3	.....	3	.....	.....	.....	30 00
Halifax	"	3	1	3	.....	.....	1	35 00
								516 00

*At this examination one candidate passed for mate foreign-going and master coasting, and the fees for both these grades of certificates were collected.

CERTIFICATES of Service.

Coasting.			Inland.		
Master.	Mate.	Fees.	Master.	Mate.	Fees.
		$ cts.			$ cts.
12		48 00	2		8 00
	4	8 00			
12	4	56 00	2		8 00

RENEWAL Certificates.

Competency.			Service.		
Master.	Mate.	Fees.	Master.	Mate.	Fees.
		$ cts.			$ cts.
8		40 00			
	1	2 50	2		5 00
8	1	42 50	2		5 00

W. H. SMITH,
Chairman.

APPENDIX No. 7.

REPORT OF GEORGIAN BAY SURVEY FOR SEASON, 1892.

OTTAWA, 24th October, 1892.

The Honourable the Minister of Marine,
Ottawa.

SIR,—I have the honour to inform you, that the winter of 1891–92 was fully occupied in drawing, for the engraver in London, fair copies of the charts "Parry Sound and Approaches" and "Burrard Inlet, British Columbia."

The sailing directions for Georgian Bay were also revised and brought up to date, this gradually increasing volume now containing over 200 pages.

In accordance with your instructions, I left Ottawa in the spring a week earlier than usual for the purpose of laying out a measured mile on the shores of Owen Sound, as a means of testing contract speed of the Government Police vessels being built by the Polson Company.

Owing to the unavoidable absence of Lieutenant Gordon, R.N., I attended the trial trip of the "Constance," the first of these vessels.

On the 4th of May, the "Bayfield" left Owen Sound, and the next day the camp party under Mr. Stewart were landed near Penetanguishene.

The vessel then departed for Parry Sound to complete the work of 1891.

This being done, the energies of the whole party were concentrated on that portion of Georgian Bay, comprised between Moose Point and Waubaushene, including the Christian Islands.

The work was continued until the 18th of October, when the vessel proceeded to Owen Sound; it being too late for further profitable surveying operations.

The whole of the coast line of the above-mentioned district was charted, and about half the chart was sounded by boats and ship.

It will take till the middle of next summer to complete this chart.

The weather up to the middle of September was very suitable for the work; since that time the usual autumn weather—rain followed by wind—was experienced.

Sufficient of the above-mentioned section has been done to show that the head waters of Georgian Bay contain several excellent havens, such as Victoria Harbour, Midland and Penetanguishene, the approaches to which are comparatively free from outlying dangers.

Although not so favourably situated as Parry Sound, with regard to shortness of distance, I am of the opinion, all things considered, that this locality is the best suited for a transcontinental port in connection with a line from Montreal, and I think it quite likely that the favourite Georgian Bay route will finally settle down into this locality.

The time of my assistants and myself will be fully occupied in plotting the work of the past season, writing a supplement to the Georgian Bay Pilot, and abstracting the tidal observations made at Burrard Inlet in 1891.

I have already acquainted you that since receiving your intimation, that after next spring my services would no longer be required, I have been offered and have accepted service on the Hydrographical Staff at the Admiralty, London, to be taken up as soon as I have finished up my work in connection with the Canadian Government.

This being the case, a short summary of what has been accomplished since the institution of the survey, may be interesting.

The survey of Georgian Bay and north channel of Lake Huron was taken in hand in the autumn of 1883, but having neither vessel nor assistants, not much more than a reconnaissance was made at that advanced state of the summer.

In 1884 the department purchased a tug steamer, and she was fitted out for the work under the name of the "Bayfield." Lieut. W. J. Stewart, ex-cadet of the Royal Military College, Kingston, was appointed, and sufficient work was accomplished during the summer of 1884, to fill the printed chart No. 906, entitled "Cabot Head to Cape Smith, and entrance to Georgian Bay."

In 1885, Lieut. D. C. Campbell, also from the Military College, was appointed as a second assistant, and that season's work was published under the title of Georgian Bay to Clapperton Island, No. 907.

The season of 1886 was principally spent upon the north-east shore of Georgian Bay, between Killarney and Byng Inlet.

The summer of 1887 was occupied in an extension of the survey into the north channel of Lake Huron, and the season's work forms the chart No. 908, Clapperton Island to Mildram Point.

The season of 1888 was occupied principally on the south-west shore of Georgian Bay. This work constitutes chart No. 1214, entitled Cape Rich to Cabot Head. A survey was also made of Collingwood. A portion of 1889 was taken up in the completion of the survey of the north channel of Lake Huron; the remainder of the summer in an extension of the survey along the north-east shore of Georgian Bay as far as the Limestone Islands. This work together with that of 1886 is printed under the title of Collins Inlet to McCoy Islands, No. 1213.

The summer of 1890 was spent in a continuation of the survey of the north-east shore of Georgian Bay covering and including Parry Sound.

In 1891 the survey of this section was completed and a survey was made by Mr. Stewart of Burrard Inlet, B.C. The past summer, as I have acquainted you in the first part of this report, was spent in an extension of the survey down the north-east shore of Georgian Bay as far as Waubaushene. This chart will require the first half of next year to complete.

Beside this, there remains the east shore of Nottawasaga Bay, about 30 miles, and again about 20 miles of shore between Collingwood and Owen Sound. Two more seasons should complete the survey of Georgian Bay and north channel of Lake Huron. A book of sailing directions entitled "The Georgian Bay and North Channel Pilot" has been written and added to from time to time, the new revision containing over 200 pages. It is an useful companion to the charts.

The total number of nautical miles of coast line surveyed has been about 2,560; the boat sounding amounts to 8,224, while 9,203 miles have been sounded in the ship. The cost of this has been approximately $188,000, giving an average value of $73 for each mile of coast surveyed.

The United States have about the same quantity of lake coast line as Canada, their survey was commenced in 1841 and finished in 1881, the total cost being $2,792,897 (two and three-quarter million dollars).

I have the honour to be, Sir,

Your most obedient servant,

J. G. BOULTON,

Staff Commander, R. N., and Admiralty Surveyor.

APPENDIX No. 8.

REPORT ON SIGNAL SERVICE.

QUEBEC, 7th October, 1892.

To the Deputy Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the following report as to the service for the season of 1892.

As in preceding seasons, reports have been received from the stations in the lower part of the river and gulf, recording the weather, wind, condition and movement of the ice during the winter months, and during the season of navigation all inward and outward bound vessels as signalled or seen from the stations.

The past winter has been a most extraordinary one as compared with former years. But very little snow fell and the ice did not form in the bays of the north shore and Labrador coast, and with the prevailing north-north-west winds the ice was all driven out of the gulf. All incoming steamers report not having met any at all within the gulf.

Pleasant Harbour, Magdalen Islands, remained free of ice until 4th March, and was open again on the 21st, when schooners left for the sealing grounds.

Sydney Harbour remained open until 30th March, when it was blocked with heavy open ice.

Cape Ray, Nfld., reported ice three times only, the last 16th April.

The last reports of ice from Bay des Chaleurs and Anticosti were sent on 23rd and 26th March, 1st April from Father Point, 6th April from Martin River to Fame River, 20th April from the Magdalen Islands to St. Paul's, and the last on 23rd April from Meat Cove—eighteen days earlier than in the past season.

From the 1st to the 20th April three reports per week were obtained and forwarded to the Boards of Trade, Montreal, St. John, N.B., and Quebec, and to the Chamber of Commerce, Halifax, N.S.; also to the press of Montreal and Quebec, to the agent of the department, Quebec, to the Custom-house and Immigration agent, to agents of steamship lines, to the pilots for below and above Quebec; also to Messrs. H. Fry & Co., Lloyds' agents.

From the 20th of April, two reports were received and forwarded as above, and in addition the News Room, North Sydney, is also supplied with the reports during the season of navigation. The Quarantine doctor at Rimouski is also supplied with a report of the incoming mail steamers.

Information as to the wind, weather and ice in the vicinity of Anticosti, Magdalen Islands, Meat Cove, C.B., St. Paul's Island, and Cape Ray, Nfld., is also sent to Point Esquimaux for the guidance of the sealing fleet.

This is the third season that no ice has been seen in the vicinity of St. Pierre-Miquelon.

Full information was supplied from the Bureau here to the agents at Anticosti, Magdalen Islands, Meat Cove, C.B., St. Paul's Island, Cape Ray, Nfld., Low Point, North Sydney, from the 18th April and to Cape Race from the 13th April, as to the weather, wind, movement and condition of the ice in the River and Gulf of St. Lawrence up to Montreal for the guidance of any vessel calling for information.

The sealing schooners left Point Esquimaux on 10th March last season; owing to the harbour being blocked they did not get away until the 2nd April. The total number of seals brought in by the schooners amounted to 6,000.

The shore killing at Amherst Island as reported was only 500.

St. Paul's Island reported 450 killed there, and that the ss. "Esquimaux," of St. John's, Nfld., had got 3,000 on April 1st.

Fox Bay, Anticosti, is credited with 34, making a total of 9,984 seals killed between 17th March and the 29th April.

January.

Mild weather prevailed up to the first week of this month, particularly on Anticosti, Magdalen Islands, and the Cape Breton shores.

January 8.—Father Point—Thermometer 11°; light open ice, stationary. Anticosti—Thermometer 40°; north-west wind; no ice; no snow.

January 13.—Father Point—Thermometer 29°; west wind; no ice. Anticosti—Thermometer 30°; north-west wind; light snowfall; no ice. Magdalen Islands—West wind; raining; no ice.

January 18.—Thermometer 13°; north-east wind; snowing; no ice. Manicouagan to Long Point—Thermometer 10°; north-west wind; close packed ice along shore. Anticosti—Thermometer 15°; cloudy; north-east wind.

January 20.—Father Point—Thermometer 18° below zero; clear and calm; heavy close packed ice everywhere, moving east. Manicouagan to Esquimaux Point—21° below zero; clear; north wind; close packed ice everywhere. Magdalen Islands—Cloudy; south-west wind; harbours all clear of ice; light snowfall. Meat Cove, St. Paul's Island and Cape Ray, Nfld.—Clear; north wind; no ice. Point Maquereau, Bay des Chaleurs—Clear; west, light wind; open ice distant.

January 24.—Father Point—26° below zero; cloudy; calm; heavy open ice everywhere, stationary. Cape Despair, Bay des Chaleurs—Cloudy; north-east wind; ice making fast. Anticosti—12° below zero; clear; strong north-west wind; light open ice distant and along shores. Magdalen Islands, Meat Cove, C.B., and Cape Ray, Nfld.—Heavy snowfall; south-east wind; no ice.

January 27.—Anticosti—Thermometer 20°; raining; strong north-east wind; ice all broken up and gone off.

January 29.—Thermometer zero; clear; east wind; heavy close packed ice everywhere. Anticosti—Clear; north wind; light open ice off Fox Bay, none elsewhere.

January 30.—The schooner "Annie Winthrop," bound for Newfoundland, arrived this day at North Sydney, C.B. No ice in harbour or outside.

February.

February 1 to 3.—Father Point to Cape Rosier; Manicouaganto Long Point—Cloudy; west winds; heavy open to close packed ice. No ice reported from other stations.

February 5 to 8.—A good deal of snow fell in the gulf, and the Magdalen Islands reported ice on the 8th instant as being off all the stations.

February 12.—Strong east to a gale with heavy snowfall prevailed from Father Point to Cape Ray, Nfld.

February 15.—Father Point to Cape Rosier—Thermometer 16°; snowing; east; heavy open to close packed ice everywhere. Anticosti—A gale of north-west wind with snow caused the schooner "Gleaner" stranded at English Bay, to go adrift with the ice. Meat Cove, C.B., and Cape Ray—Clear; south-east; no ice.

February 19.—Father Point—Thermometer 12°; clear; west; ice unchanged. Esquimaux Point—Thermometer 35°; clear; west; no ice; heavy open ice off other stations to Seven Islands. Anticosti—Thermometer 38°; cloudy; east wind; no ice in sight. Magdalen Islands and Meat Cove—Hazy; south winds; light open ice off all stations. St. Paul's Island and Cape Ray—No ice.

February 22.—Anticosti—Foggy; east; no ice. St. Paul's Island—Cloudy, variable; light open ice in sight everywhere; none at Meat Cove or the Magdalens.

February 26.—Father Point—Thermometer 33°; cloudy; west wind; heavy open ice everywhere. Esquimaux Point—Cloudy; west; light open ice along shore. Sealing schooner launched ready to start. From Point des Monts to Long Point,

heavy open to close packed ice; seals very scarce. Anticosti—Thermometer 32°; cloudy; strong south; light open ice along shore from West Point to Southwest Point; none elsewhere. Magdalen Islands, Meat Cove, St. Paul's Island and Cape Ray, Nfld.—Cloudy, variable; no ice. Pleasant Harbour, as clear as in summer.

March.

March 2.—Thermometer 2°; cloudy; east; no ice. Manicouagan to Esquimaux Point—Thermometer 18° below zero; clear; north-west; heavy close packed ice off all stations, stationary. Anticosti—Thermometer 2° below zero; clear; north wind. Fox Bay—Clear of ice; heavy open ice off all other stations, moving south.

March 4.—All stations report heavy snowstorm; east to south-east winds.

March 8.—Anticosti—Clear; north-east; schooner "Lady Hill," of St. Johns, Nfld., at Heath Point, 1 p.m., reports seeing no ice or seals since leaving home. Magdalen Islands—Cloudy; strong east wind; close packed ice everywhere. Meat Cove—Light open ice; distant.

March 10.—Father Point—Close packed ice distant, moving east. Anticosti—Ther. 30°; snowing; south-east; no ice. Esquimaux Point—Outward to-day for sealing grounds, schooners "Labrador," "H. B.," "St. Joseph," "Marie Sacré-Cœur," "Acara," "Ste. Marie," "Java," "Gleaner," "Stella Marie," "D. Cronan," "Amelia," "Pioneer," and "Phœnix." Cape Ray—Sleeting; strong south-east. Eight schooners sailed for seal fishery.

March 14.—Meat Cove, C.B.—Cloudy; north-west; light close packed ice 6 miles wide. Esquimaux Point—Cloudy; north-west wind. Sealing schooners "Marie Anne," "Eugenie," and "Etoile du Nord" sailed.

March 16.—Anticosti—Ther. 15°; light open ice everywhere; cloudy; strong north-west wind. Magdalen Islands, Meat Cove, C.B., St. Paul's Island—All report heavy close packed ice everywhere.

March 18.—A flock of 20 seals passed South-west Point.

March 21.—St. Paul's and Magdalen Island—Strong west; heavy close packed ice everywhere. A flock of seals now off Amherst Island. Three schooners left Pleasant Harbour Saturday. Cape Ray, Nfld.—Mild; cloudy; strong west; light open ice distant, moving east.

March 30.—Father Point—Ther. 24°; clear; north; heavy open ice everywhere. To Esquimaux Point from Point des Monts—Ther. 14°; clear north wind; no ice. Magdalen Islands—Heavy open ice everywhere. St. Paul's reports one steamer and schooner in the ice off there killing seals. Cape Ray—Clear; north-east no ice. Low Point, C.B.—Clear; strong north; heavy open ice everywhere. Sydney Harbour closed to-day. The schooner "Amelia" arrived from Great Meccatina on the 25th with 1,100 seals, reports 3 steamers and several schooners in the ice off there all doing well.

April.

South to north-west winds prevailed during the month, and owing to the general mildness of the winter, the ice in the river and gulf was not as heavy or as extensive as in previous years and disappeared very fast. The last reports as to the presence of ice in the various parts of the river and gulf are as follows:—

March 23.—Bay des Chaleurs, cloudy; south-west; open ice distant. Anticosti—Ther. 20°; clear; north-west; heavy open to close packed ice off West Point and South-west Point.

March 26.—Point des Monts to Esquimaux Point—Heavy open ice, moving south-west.

April 1.—Father Point—Clear; south-west; light open ice distant.

April 6.—Martin River to Fame Point—Clear; west; open ice distant, moving east.

April 15.—Cape Ray, Nfld.—Clear and fine; west wind; light open ice inshore, moving south-east.

April 20.—Magdalen Islands—Clear; west wind; light open ice distant.

April 20.—St. Paul's Island—Clear; west wind; heavy open ice everywhere, moving east.

April 23.—Meat Cove, C.B.—West wind; open ice distant, moving east.

April 1.—St. Paul's Island reports the SS. "Esquimaux" off there,

April 4.—Schooner "Gleaner" left Esquimaux Point on second trip.

April 6.—Schooner "Gleaner," at South-west Point, reports killed 50 seals on north side of the island.

April 8.—Schooner "Thomas Guthrie," at Fox Bay, from Cod Roy, Nfld., reports met no ice or seals on voyage.

April 16.—SS. "Polino," from Low Bay, was reported passing Cape Rosier at 11 a.m.

April 18.—SS. "Charrington" reported passing Cape Magdalen at 5 a.m.; previously reported on the 16th off South Point, Anticosti, 6 p.m.

April 19.—SS. "Fremona" reported off Cape Magdalen 6.30 a.m.

April 21.—The Cape Rouge ice gave way at 3 a.m., and all passed down, opening navigation to Montreal.

April 21.—Pilot cutter No. 2, with a number of pilots, left for Bic Station.

April 24.—The R. & O. steamer "Three Rivers" arrived down from Montreal.

April 25.—Lower Traverse Light-ship at station. The ss. "Alert" at upper Station. The Traverse clear of ice.

Cape Ray, Nfld., reports clear weather and strong north wind. In, 2.30 p.m., ss. "Nether Holme"; 7.30 p.m., "Lake Huron."

April 29.—Fame Point—Clear; north-west wind. In, 1 p.m, one ship. Cape Rosier—Cloudy; south wind. In, 1.30 p.m., one brig. Herring reported very plentiful at the Magdalen Islands.

Navigation Open.

April 12.—Schooners "Salmon Queen," "Eliza" and "Ecossais" arrived up from Murray Bay, and left again on the 16th.

April 20.—SS. "Alert" came out of winter quarters in the Louise Basin.

May 2.—SS. "Miramichi," for Pictou, N.S., and way ports, left at 2 p.m.

CAPE RACE, NEWFOUNDLAND.

Special Reports in April and May.

April 13 to May 3.—Variable weather and wind; occasional fog; no ice or icebergs.

May 4.—Clear; light east wind; one iceberg 20 miles E.N.E.

May 11.—Clear; strong north wind; two bergs E.N.E.

May 13.—Foggy; north-west; four bergs moving south.

May 16.—Dense fog; calm; eight bergs in sight.

May 18.—Clear; gale north-west; no ice.

May 23.—Raining; south-east wind; three bergs moving south-east and one moving south-west.

May 26.—Hazy; strong south-west; eight bergs moving south-west.

May 30.—Clear; strong north-east wind; two bergs in sight, stationary.

Straits of Belle Isle.

The full report of ice and icebergs, weather, &c., in the Straits, appears in Appendix A.

The ss. "Baummall," Captain Skudd, of the Hansa line, from Hamburg, June 1st, reports tried to make a passage through, but found the entrance to the Straits completely blocked with field ice and icebergs.

The ss. "St. Clears," Captain Hockel, from Penarth, 8th June, arrived here on the 20th June, reports passed through the Straits of Belle-Isle, and with the exception of icebergs, the passage was clear.

All other steamers that have come through had no difficulty, but all report icebergs as being to the eastward of the entrance, even up to the 1st October.

First Departure of Steamers from Great Britain and Foreign Ports.

March	27.	—	SS. "Charrington," Catania.
"	31	"	"Fremona," Palermo.
April	2	"	"Dracona," Messina.
"	5	"	"Escalona," Palermo.
"	12	"	"Storm King," Antwerp.
"	12	"	"Wergeland," Bergen.
"	16	"	"Lake Huron," Liverpool.
"	17	"	"City of Lincoln," Waterney.
"	21	"	"Sardinian," Liverpool.
"	19	"	"Sphynx," Liverpool.
"	20	"	"Rosarion," London.
"	22	"	"Oregon," Liverpool.

First Steamers Reported.

April 16.—Cape Rosier—Clear; strong west; in 11 a.m., ss. "Polino."
April 18.—Fame Point—North-west; in 6 p.m.; ss. "Charrington."
April 19.—Cape Magdalen—Clear; north-west; in 6.30 a.m.; ss. "Fremona."

First Arrivals of Transatlantic Steamers.

April 20.—The ss. "Fremona," Tait, from Palmero, with fruit. The captain reports coming through the Gut of Canso and Straits of Northumberland; met with very little ice until within a short distance of Quebec.

The ss. "Charrington," Danson, from Catania, 27th March, with fruit; passed one large iceberg 200 miles east of Cape Ray; met no ice in the gulf and saw the first between River du Loup and Quebec.

April 25.—The ss. "Tiber," Delisle, from St. Johns, Nfld., and Cow Bay, 29th April. Saw no ice on the Banks, nor off the east or south of Newfoundland. After leaving Cow Bay, passed a large field of ice extending from Scatterie to 15 miles out of St. Paul's. Fresh north-west winds are blowing it to the south-west of St. Paul's, and up the gulf met no ice.

April 27.—ss. "Lake Huron," Carey, from Liverpool, 16th April. Had clear weather; strong north-west winds. Met no ice in the gulf.

May, 2.—R. M. SS. "Sardinian," Richardson, from Liverpool, 21st April. Met no ice.

First Outward Transatlantic Steamer.

May 5.—The ss. "Warwick," Coutts, for Glasgow. Left port this day, one day in advance of the first outward steamer last season.

Report on Belle-Isle and the Straits; list of stations, with table of distances, &c., and casualties to vessels, will form the appendices.

Respectfully submitted,

H. J. McHUGH,
Inspector Signal Service.

APPENDIX No. 9.

REPORT OF SUPERINTENDENT OF GOVERNMENT QUEBEC RIVER POLICE FOR 1892.

The Deputy Minister of Marine and Fisheries,
Ottawa.

This force during the season of 1891 consisted of 18 men, and on the opening of the season of 1892 was further reduced to 16 men; composed of 4 coxswains or sergeants, 1 engineer and 11 constables. Each man is on and off duty for 24 hours, excepting the engineer, one sergeant and wheelsman who do daily duty.

During the past 10 years the force numbered :—

In 1882	40 men	including	the chief.
1883	37 do	do	do
1884	36 do	do	do
1885	37 do	do	do
1886	35 do	do	do
1887	35 do	do	do
1888	32 do	do	do
1889	23 do	under superintendence of	the agent.
1890	20 do	do	do
1891	18 do	do	do
1892	16 do	do	do

The season of 1892 opened out with a large increase in the number of the sea-going vessels of all descriptions over 1891, which up to the 30th of September of the same year amounted to the following :—

	Vessels.	Tons.
Steamships, increase over 1891	56	107,750
Sailing ships do do	105	90,349
Coasting vessels do do	32	26,664
Total increase over 1891	193	224,763

Consequently the number of arrests were proportionately greater, fully double that of 1891.

Deserters	16	in 1892 to 30th September.
Refusal of duties	26	
Absence without leave	8	
Assaulting officers, mutiny	7	
Total to 30th Sept., 1892	57	Total for the whole season, 1891. 29

All duties performed by the force are regulated by orders received from the department at Ottawa, and confined to the harbour of Quebec. As I have heretofore reported, the existing custom of the shipping (in fact I am informed the same exists in all American sea-ports) of employing noted crimps to provide seamen to replace deserters, seriously interferes with the duties of the police in preventing desertion and crimping,

There appears but one remedy against this state of affairs and that is to make this a port of discharging the crews; but this has always been objected to by British as well as foreign shippers, consequently the traffic in seamen fluctuates as it does

for the commodities of trade, according to supply and demand and will likely continue so. My own impression is that most of the men who stand by their ships under existing circumstances would willingly re-engage if this is made a port of discharge.

The services any force can render to the shipping of this harbour, consists in checking crimes, by making arrests for mutiny, assaults, and refusal of duty when called upon at the station or patrolling.

The cost of maintaining the force for the season 1892 will probably amount to $6,500. The tax on the shipping for the season will probably amount to $8,500, a surplus of $2,000. My calculations are based upon results from the opening of navigation to the 30th September of this year.

Shipping Office.

Returns will be made out at the end of the season up to the 30th September, 1892. The operations were about the same as at same time of season of 1891. The increase in number of arrivals and departure of vessels did not result, up to date, in an increased number of discharges and of crews shipping, and seamen were not so scarce.

J. U. GREGORY,

Agent Department of Marine and Fisheries,
Superintendent Harbour Police and Shipping Master, and Fishery Officer.

APPENDIX No. 10.

STATEMENT relating to Wharves under control of Department of Marine on 30th June, 1892.

(Rules established for the government of Wharves, 12th June, 1889.)

Locality.	Wharfinger.	Date of Appointment.	Remuneration allowed.	Amount deposited to credit of Receiver General.
Ontario.				$ cts.
Cockburn Island	Alfred Monck	May 30, 1889.	25 p. c. of collections	70 27
Goderich	Vacant			1,115 00
Inverhuron	do			
Kingsville	S. A. King	May 5, 1890.	25 p. c. of collections	85 22
Morpeth	Thos. McCallum	Aug. 25, 1891.	25 do	4 59
Rondeau	W. R. Fellows	Dec. 17, 1888.	25 do	6 80
Sault Ste. Marie	W. H. Plummer	Jan. 2, 1890.	$100 per an. of collections	830 14
Southampton	James Johns	Sept. 12, 1890.	25 p. c. of collections	
Summerstown	Don. Ward	June 4, 1891.	25 do	0 35
Wiarton	H. R. A. Eby	Dec. 10, 1890.	25 do	32 98
				2,145 35
Quebec.				
Agnes	L. A. Roy	Nov. 27, 1891.	25 p. c. of collections	
Anse St. Jean	E. Roy	July 31, 1891.	25 do	
Baie St. Paul	A. Simard	Aug. 25, 1891.	25 do	
do	C. Bouchard	do 25, 1891.	25 do	
Berthier	Chas. Bouffard	Mar. 24, 1890	25 do	
Beauport	Félix Guillot	Nov. 21, 1891.	25 do	
Carleton	Jos. Cauchon	June 4, 1889.	$50 per an. of collections.	119 91
Cascades	Vacant			
Chicoutimi	N. Morin	July 7, 1891.	25 p. c. of collections	
Isle aux Grues	Jos. Painchaud	Feb. 17, 1890.	25 do	
Lacolle	Vacant		25 do	95 68
Les Eboulements	Juste Dufour	July 20, 1891.	25 do	
L'Islet	Vacant		25 do	
Murray Bay	F. Tremblay	Mar. 22, 1892.	25 do	
New Carlisle	John C. Hall	June 4, 1889.	25 do	151 47
Port Daniel	John Enright	Sept. 11, 1890.	$50 per an. of collections.	121 84
Rivière Ouelle	Vacant			
Rivière du Loup	Louis Pinze	Sept. 16, 1891	25 p. c. of collections	16 56
St. Alphonse de Bagotville	A. Tremblay	July 7, 1891.	25 do	
Ste. Cécile du Bic	L. N. Côté	do 20, 1891.	25 do	
St. Jean d'Orléans	N. Blouin	Aug. 25, 1891.	25 do	
St. Laurent d'Orléans	Jos. Chabot	July 7, 1891.	25 do	
St. Thomas de Montmagny	Eug. Hamond	May 20, 1892.	25 do	
Tadousac	A. Christiansen	July 7, 1891.	25 do	11 59
Trois-Pistoles	N. Rioux	Sept. 16, 1891.	25 do	
Nova Scotia				
Arisaig	Vacant			
Avonport	Robert Shaw	Nov. 23, 1888.	25 p. c. of collections	
Barrington	S. W. Crowell	Aug. 12, 1891.	25 do	74 60
Bayfield	Edward Randall	do 25, 1888.	25 do	
Belliveau's Cove	Ambroise Thérieau	do 25, 1888.	25 do	
Broad Cove Marsh	Vacant			
Brooklyn	F. T. Gardiner	Oct. 20, 1882.	20 p. c. of collections	
Canada Creek	C. E. Eaton	Nov. 23, 1888.	25 do	
Cape Cove	M. A. Doucette	Dec. 7, 1891.	25 do	29 19

STATEMENT relating to Wharves, &c.—*Continued.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration allowed.	Amount deposited to credit of Receiver General.
Nova Scotia—Continued.				$ cts.
Centreville	W. M. B. Dakin	Aug. 25, 1888	25 p. c. of collections	69 04
Chipman's Brook	Jas. Misaner	Nov. 23, 1888.	25 do	22 00
Church Point	Fred. Belliveau	Sept. 15, 1888.	25 do	36 06
Cow Bay	Arch. McKinnon	April 15, 1879.	7½ do	1,997 70
Cranberry Head	Abram Thurston	Feb. 16, 1889.	25 do	
Delap's Cove	W. R. McCaul	Nov. 28, 1889.	25 do	5 47
Digby	H. B. Short	Jan. 9, 1891.	25 do	623 21
Eagle Head	Nathan Leslie	Jan. 9, 1889.	25 do	
East Bay	Donald McInnis (Ronald's son),	April 5, 1886.	50 do	
Grand Narrows, Victoria Co.	John P. McNeill	Aug. 25, 1888.	25 do	1 50
do Cape Breton Co	E. A. McNeill	Nov. 6, 1888.	25 do	301 85
Hall's Harbour	Sydney Roscoe	Nov. 23, 1888.	25 do	
Hempton	Judson Foster	Aug. 25, 1888.	25 do	24 60
Harbourville	C. O. Cook	Nov, 23, 1888.	25 do	53 46
Maitland, Hants Co.	C. S. Stuart	Sept. 5, 1888.	25 do	91 27
do Yarmouth Co.	J. W. Raymond	April 14, 1890.	25 do	12 65
Margaretsville	T. J. Downie	Aug. 25, 1888.	50 do	49 59
Meteghan Cove	H. T. Deveau	Sept. 15, 1888.	25 do	16 09
Meteghan River	Urbain Doucette	Jan. 31, 1883.	20 do	119 31
Militia Point	Alex. McFayden	Mar. 21, 1889	25 do	
Morden	Wm. Minnis	Nov. 23, 1888.	25 do	39 45
Oak Point	T. E. Bigelow	June 3, 1876.	33⅓ do	194 00
Ogilvie	R. S. Armstrong	Nov. 23, 1888.	25 do	7 69
Parrsboro'	Thompson Tipping	Nov. 26, 1888.	25 do	
Pickett's Wharf	Andrew Bishop	Dec. 24, 1884.	25 do	160 27
Pictou Island	Vacant			
Plympton	W. K. Smith	Aug. 8, 1890.	25 p. c. of collections	13 03
Point Brulé	David Stevenson	Nov. 23, 1888.	25 do	
Port George	Jas. E. Slocomb	Aug. 8, 1890.	25 do	134 92
Port Greville	Vacant			
Port Hood	V. A. McDougall	May 17, 1892.	25 p. c. of collections	148 90
Port Hood Island	Vacant			
Port Lorne	Samuel Beardsley	Aug. 25, 1888.	25 p. c. of collections	39 78
Salmon River	J. M. Deveau	Nov. 29, 1890.	25 do	
Saulniersville	J. T. Saulnier	Aug. 25, 1888.	25 do	33 31
Sheet Harbour, East and West River	M. McFarlane	May 20, 1890	25 do	10 02
Tancook Island	Vacant			
Tracadie	J. M. Hall	Nov. 6, 1888.	25 p. c. of collections	
Tusket Wedge	Jas. Cothreau	Feb. 16, 1889.	25 do	
Victoria, King's Co.	Wm. Brown	Feb. 11, 1889.	25 do	12 49
West Pubnico	N. A. D'Entremont	April 9, 1890.	25 do	
White Point	Elisha West	Jan. 9, 1889.	25 do	
				4,321 45
New Brunswick.				
Buctouche	J. J. LeBlanc,	May 2, 1892.	25 p. c. of collections	
Campbellton	Vacant			27 15
Clifton	do			
Dalhousie	W. J. Smith	June 27, 1891.	25 p. c. of collections	49 97
Hopewell Cape	Wm. Hamilton	April 9, 1890.	25 do	47 57
St. Louis	Vacant		25 do	
				124 69
Prince Edward Island.				
Annandale	James Taylor	July 2, 1885.	25 p. c. of collections	68 65
Bay View	Joseph Harrington	Oct. 2, 1885.	25 do	
Belfast	Thos. McLennan	July 21, 1890.	25 do	108 78
Brush Wharf	Levi R. Ings	Sept. 18, 1885.	25 do	142 63
Campbell's Cove	Angus McIntyre	Oct. 17, 1888.	25 do	

STATEMENT relating to Wharves, &c.—*Continued.*

Locality.	Wharfinger.	Date of Appointment.	Remuneration allowed.	Amount deposited to credit of Receiver General.
P. E. Island—Con.				$ cts.
Chapel Point	Ronald McCormick	Sept. 18, 1885.	25 p. c. of collections	22 15
China Point	W. S. N. Crane	Sept. 18, 1885.	25 do	16 06
Clifton	Wm. McKay	Sept. 22, 1886.	25 do	18 25
Crapaud and Victoria Pier	James Day	May 12, 1890.	25 do	85 81
Georgetown	James Bourke	July 2, 1885.	25 do	19 78
Hickey's Wharf	R. Webster	July 31, 1891.	25 do	14 49
Higgins' Shore	G. G. Henry	Nov. 9, 1891.	25 do	
Hurd's Point	R. Robblee	Oct. 6, 1888.	25 do	22 75
Kier's Shore	H. S. McNutt	Nov. 3, 1885.	25 do	49 50
Lewis Point	Jos. A. Macdonald	April 15, 1891.	25 do	18 87
McGee's Wharf	N. Gallant	Nov. 9, 1891.	25 do	
Mink River	Ben Clow	June 30, 1892.	25 do	
Montague, Lambert and Stevens Piers	A. McQueen	Oct. 24, 1891.	25 do	85 19
Murray Harbour	Rich. Murley	Aug. 25, 1891.	25 do	
Nine Mile Creek	Edward Harrington	Oct. 29, 1885.	25 do	
North Cardigan, Newport	Donald McIntyre	July 2, 1885.	25 do	28 65
Pinette	Hector D. Morrison	Sept. 18, 1885.	25 do	15 22
Pownal	Alex. McRae	Oct. 2, 1885.	25 do	69 76
St. Mary's Bay	C. H. Lewellin	July 2, 1885.	25 do	18 00
Souris	B. McEachren	June 3, 1884.	25 do	0 97
South Rustico, Oyster Bed Bridge	Jos. Doucette	Oct. 2, 1885.	25 do	54 93
Sturgeon River	Bernard Kearney	Sept. 18, 1885.	25 do	34 68
Tignish River	Geo. Conroy	Oct. 2, 1891.	25 do	8 30
Vernon River	J. G. McKenzie	Oct. 19, 1885.	25 do	131 69
West Point	Vacant			
Wood Island	M. H. McMillan	May 16, 1889.	25 p. c. collections	
				1,035 11

RECAPITULATION.

Ontario	$2,145 35
Quebec	517 05
Nova Scotia	4,321 45
New Brunswick	124 69
Prince Edward Island	1,035 11
Total wharfage dues collected	8,143 65

Add—Fees received by undermentioned harbour masters in excess of remuneration allowed :—

Harbour master,	Sorel, Que	$ 8 50	
do	St. John's, Que	104 50	
do	Cape Canso, N.S	17 00	
do	International Pier, N.S	20 00	
do	Chatham, N.B	9 00	
do	Burrard Inlet, B.C	31 00	
do	Nanaimo, B.C	133 00	
			323 00
Total revenue from Wharves and Harbours			$8,466 65

N.B.—With exception of Cow Bay and Digby, wharfingers are not required to forward returns of collections till end of calendar year. This statement only shows amounts received by department and placed to credit of Receiver-General up to 30th June, 1892.

APPENDIX No. 11.

SHIPMENT OF LIVE STOCK.

INSPECTOR'S OFFICE, MONTREAL, 31st October, 1892.

RETURN of Live Stock shipped from the Port of Montreal to Europe, during the Season of 1892.

MAY.

Date.	Steamers.	Destination.	Sheep.	Cattle.			Fees collected.
				Fat.	Stockers	Total.	
							$ cts.
May 4	Lake Huron	Liverpool	67	545		545	10 90
do 5	Warwick	Glasgow		443	10	453	9 06
do 6	Fremona	Newcastle		438		438	8 76
do 6	Sarmatian	Glasgow		462	6	468	9 36
do 7	Cremona	Aberdeen		159	20	179	3 58
do 9	Texas	Bristol		385		385	7 70
do 10	Lake Superior	Liverpool		573		573	11 46
do 10	Dracona	Dundee		157		157	3 14
do 11	Oregon	Liverpool		390		390	7 80
do 11	Assyrian	Glasgow		507		507	10 14
do 12	Concordia	"		492		492	9 84
do 13	Rosarian	London		459		459	9 18
do 13	Storm King	"	99	398		398	7 96
do 13	Canopus	Liverpool		497		497	9 94
do 14	Numidian	"	99	498		498	9 96
do 16	Peckhuben	Newcastle		393		393	7 86
do 16	Escalona	London		335		335	6 70
do 17	Grecian	Glasgow		386		386	7 72
do 18	Lake Winnipeg	Liverpool		465		465	9 30
do 18	Toronto	"		405		405	8 10
do 18	Oxenholme	"		433		433	8 66
do 19	Gerona	Newcastle		480		480	9 60
do 19	Alcides	Glasgow		572	25	597	11 94
do 19	Ontario	Bristol		431		431	8 62
do 19	Stubbenhuk	Dundee		60	127	187	3 74
do 20	Brazillian	London		521	30	521	10 42
do 21	City of Lincoln	Newcastle		608	30	638	12 76
do 21	Colina	Glasgow		336		336	7 32
do 21	Mandalay	"		203		203	4 06
do 23	State of Georgia	Aberdeen		243	162	405	8 10
do 24	Dominion	Liverpool		406	5	411	8 22
do 25	Lake Ontario	"		544		544	10 88
do 25	Wandhrom	Newcastle		365		365	7 30
do 25	Cynthiana	Glasgow		252		252	5 04
do 25	Culona	Newcastle	126	335		335	6 70
do 25	Pomeranian	Glasgow		532	9	541	10 82
do 26	Indrani	"		594		594	11 88
do 27	Coomassie	Avonmouth		202		202	4 04
do 28	Birnecia	Southampton		181		181	3 62
do 31	Lake Nepegon	Liverpool		320		320	6 40
do 31	Sarnia	"		282		282	5 64
	Total, May		391	16,287	424	16,711	334 22

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

RETURN of Live Stock shipped from the Port of Montreal to Europe, during the month of June, 1892.

Date.	Steamer.	Destination.	Sheep.	Cattle.			Fees Collected.
				Fat.	Stockers	Total.	
							$ cts.
June 1.	Wetherly	London		149	33	182	3 64
do 2.	Buenos Ayrean	Glasgow		503		503	10 06
do 2.	Monkseaton	Bristol		185		185	3 70
do 2.	Montevidean	London		483		483	9 66
do 2.	Amarynthia	Glasgow		734		734	14 68
do 2.	Straits of Magellan	do		215		215	4 30
do 2.	Liddesdale	Leith		200		200	4 00
do 3.	Mongolian	do		570		570	11 40
do 6.	Hungarian	Newcastle		159		159	3 18
do 7.	Loch Etive	Bristol	187	142		142	2 84
do 8.	Labrador	Liverpool		128		128	2 56
do 8.	Peruvian	Glasgow		451		451	9 02
do 8.	Lake Huron	Liverpool		504		504	10 08
do 8.	Warwick	Glasgow		468		468	9 36
do 10.	Texas	Bristol		385		385	7 70
do 15.	Oregon	Liverpool		389		389	7 78
do 15.	Lake Superior	do		502		502	10 04
do 15.	Sarmatian	Glasgow		675		675	13 50
do 16.	Concordian	do		512		512	10 24
do 17.	Fremona	Dundee		160	523	683	13 66
do 17.	Grimm	Newcastle	175	327	77	404	8 08
do 17.	Numidian	Liverpool		518		518	10 36
do 19.	Feliciana	do	157	494		494	9 88
do 19.	Benwick	do		206		206	4 12
do 19.	Plassey	Bristol		298		298	5 96
do 20.	Sicilia	Glasgow		370		370	7 40
do 22.	Grecian	do		448	20	468	9 36
do 22.	Toronto	Liverpool		524		524	10 48
do 22.	Cilurnum	Bristol		170		170	3 40
do 22.	Lake Winnipeg	Liverpool		592		592	11 84
do 23.	Alcides	Glasgow		554	7	561	11 22
do 23.	European	London		390		390	7 80
do 24.	Rosarian	do		491		491	9 82
do 24.	Oxenholme	Liverpool	179	381	50	431	8 62
do 24.	Barnwell	Aberdeen		448	60	508	10 16
do 25.	Canopus	Liverpool		520		520	10 40
do 25.	Gerona	Newcastle	170	488	296	784	15 68
do 27.	Escalona	do		179	192	371	7 42
do 28.	Assyrian	Liverpool	285	414		414	8 28
do 29.	Pomeranian	Glasgow		403		403	8 06
do 29.	Dominion	Bristol		363	60	423	8 46
do 29.	Lake Ontario	Liverpool		483		483	9 66
do 30.	Indrani	Glasgow		582	25	607	12 14
	Totals June		1,153	17,157	1,343	18,500	370 00
	do May		391	16,287	424	16,711	334 22
	do May and June		1,544	33,444	1,767	35,211	704 22

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

RETURN of Live Stock shipped from the Port of Montreal, during the month of July, 1892.

Date.	Steamer.	Destination.	Sheep.	Cattle.			Fees Collected.
				Fat.	Stockers	Total.	
							$ cts.
July 2.	Dracona	London	321	321		321	6 42
do 3.	Storm King	do		439		439	8 78
do 3.	Colina	Glasgow		368	5	373	7 46
do 3.	Lochmore	Liverpool		200	6	206	4 12
do 6.	Buenos Ayrean	Glasgow		537	10	547	10 94
do 6.	Brazilian	London		409		409	8 16
do 6.	Pickhuben	Newcastle		400		400	8 00
do 6.	Sarnia	Liverpool	440	355		355	7 10
do 6.	Lake Nepigon	do	639	262		262	5 24
do 6.	Ontario	Bristol		436		436	8 72
do 6.	Amarynthia	Glasgow		746	21	767	15 34
do 6.	Avlona	Aberdeen		163	212	375	7 50
do 8.	Virginian	Liverpool		706	25	731	14 62
do 9.	Mongolian	do	932	475		474	9 50
do 13.	Lake Huron	do	630	547		547	10 94
do 13.	Labrador	do	1,261	283		283	5 66
do 13.	Peruvian	Glasgow		402	28	430	8 60
do 13.	State of Georgia	Newcastle		31	457	488	9 76
do 14.	Texas	Bristol	383	281	78	359	7 18
do 14.	Warwick	Glasgow		454	20	474	9 48
do 14.	Straits of Magellan	do		204		204	4 08
do 16.	City of Lincoln	Liverpool	999	536		536	10 72
do 16.	Steebenhuk	Newcastle		376		376	7 52
do 17.	Broomhaugh	Bristol	154	139	26	165	3 30
do 17.	Liddesdale	Dundee		120	331	451	9 02
do 20.	Lake Superior	Liverpool	632	417		417	8 34
do 20.	Sarmatian	Glasgow		532	15	547	10 94
do 20.	Oregon	Liverpool	877	248	5	253	5 06
do 20.	Montevidean	London	273	351		351	7 02
do 21.	Loch Etive	do	216	140		150	2 80
do 21.	Concordia	Glasgow		500	26	526	10 52
do 21.	Venetian	Liverpool	535	634		634	12 68
do 22.	President Garfield	Newcastle	180	111		111	2 22
do 22.	Monkseaton	Bristol	335	100	323	423	8 46
do 23.	Peveril	do		135	84	216	4 32
do 23.	Numidian	Liverpool	896	146	5	151	3 02
do 24.	Storm King	London	265	414		414	8 28
do 26.	Cynthian	Newcastle	293	382	118	500	10 00
do 26.	Wandraham	London	250	338		338	6 76
do 27.	Grecian	Glasgow		473	20	493	9 86
do 27.	Lake Winnipeg	Liverpool	503	390	20	410	8 20
do 28.	Alcides	Glasgow		530	20	550	11 00
do 29.	Plassey	Bristol		300		300	6 00
do 29.	Sobraon	Dundee		138	533	671	13 42
do 29.	Fremona	do		164	662	826	16 52
do 29.	Oxenholme	Liverpool	125	368	85	453	9 06
do 30.	Sicilia	Glasgow		287	60	347	6 94
	Totals July		11,239	16,288	3,192	19,480	389 60
	do May and June		1,544	33,444	1,767	35,211	704 22
	do May June and July		12,783	49,732	4,959	54,691	1,093 82

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

RETURN of Live Stock shipped from the Port of Montreal to Europe during the month of August, 1892.

Date.	Steamer.	Destination.	Sheep.	Cattle.			Fees Collected.
				Fat.	Stockers	Total.	
							$ cts.
.. ....	Alcides	Omitted 28th July	105				
Aug. 2.	Gerona	Newcastle	485	661	68	727	14 59
do 3.	Lake Ontario	Liverpool		212		212	4 24
do 3.	Toronto	do		480		480	9 60
do 3.	Pomeranian	Glasgow		444	90	534	10 68
do 3.	Rosarian	London		324		324	6 48
do 4.	Indrani	Glasgow		433	279	712	14 24
do 4.	Dominion	Bristol		363	60	423	8 46
do 6.	Canopus	Liverpool		480	36	516	10 32
do 8.	Hungarian	Newcastle		282		282	5 64
do 8.	Berwick	Aberdeen			263	263	5 26
do 8.	Escalona	do			409	409	8 18
do 9.	Lake Nepigon	Liverpool		160		160	3 20
do 10.	Sarnia	do	647	259	15	274	5 48
do 10.	Buenos Ayrean	Glasgow		507	45	552	11 04
do 11.	Ontario	Bristol		388	60	448	8 96
do 11.	Amarynthia	Glasgow		607	45	652	13 04
do 12.	Grimm	Dundee		63	403	466	9 32
do 12.	Assyrian	Liverpool	358	390	15	405	8 10
do 13.	Mongolian	do	351	530	387	530	10 60
do 15.	Dracona	Aberdeen		23	255	410	8 20
do 16.	Coomassie	Dundee			30	255	5 10
do 17.	Peruvian	Glasgow		427		457	9 14
do 17.	Labrador	Liverpool		278		278	5 56
do 17.	Brazilian	London		478		478	9 56
do 17.	Lake Huron	Liverpool	33	355		355	7 10
do 18.	Warwick	Glasgow		466		466	9 32
do 18.	Texas	Bristol		357	35	392	7 84
do 18.	European	Dundee		85	382	467	9 34
do 20.	Virginian	Liverpool		690	30	720	14 40
do 20.	Straits of Magellan	Glasgow		220		220	4 40
do 22.	State of Georgia	Aberdeen		30	457	487	9 74
do 23.	Lake Superior	Liverpool		268		268	5 36
do 23.	Oregon	do		324		324	6 48
do 24.	Sarmatian	Glasgow		411	35	446	8 92
do 24.	Feliciana	Dundee		6	610	616	12 32
do 25.	Concordia	Glasgow		475	50	525	10 50
do 26.	City of Lincoln	Newcastle		404	130	534	10 68
do 27.	Baumwell	Aberdeen		110	390	500	10 00
do 27.	Carthagenian	Liverpool	701	171		171	3 42
do 27.	Numidian	do	97	356		356	7 12
do 27.	Peveril	Bristol		200		200	4 00
do 28.	Liddesdale	Dundee			463	463	9 26
do 28.	Olympia	Newcastle		212	119	331	6 62
do 28.	Storm King	Dundee		234	263	497	9 94
do 31.	Lake Winnipeg	Liverpool		203	11	214	4 28
do 31.	Fremona	Dundee		156	347	503	10 06
do 31.	Montevidean	London	116	212		212	4 24
do 31.	Grecian	Glasgow		335	170	505	10 10
	Total, August		2,920	14,069	5,952	20,021	400 42
	do May, June and July		12,783	49,732	4,959	54,691	1,093 82
	do May, June, July and August		15,703	63,801	10,911	74,712	1,494 24

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

RETURN of Live Stock shipped from the Port of Montreal to Europe during the month of September, 1892.

Date.	Steamer.	Destination.	Pigs.	Sheep	Cattle.			Fees Collected.
					Fat.	Stockers	Total.	
								$ cts.
Sept. 1	Alcides	Glasgow			472	100	572	11 44
do 2	Plassey	Bristol			236	90	326	6 52
do 2	Colina	Glasgow			110	326	436	8 72
do 5	Pickhuben	Aberdeen			20	480	500	10 00
do 7	Lake Ontario	Liverpool			153		153	3 06
do 7	Norse King	Dundee			218	318	536	10 72
do 7	Pomeranian	Glasgow			170		170	3 40
do 7	Toronto	Liverpool		81	386	5	391	7 82
do 8	Indrani	Glasgow			407	314	721	14 42
do 10	Cremona	Aberdeen			27	179	206	4 12
do 10	Dominion	Bristol			327	105	432	8 64
do 10	Oxenholme	Liverpool	371		114	76	190	3 80
do 11	Sicilia	Glasgow			82	330	412	8 24
do 14	Lake Nepigon	Liverpool			161		161	3 22
do 14	Sarnia	Liverpool			217	12	229	4 58
do 14	Rosarian	London			208		208	4 16
do 14	Buenos Ayrean	Glasgow			250	333	583	11 66
do 15	Amarynthia	Glasgow			588	65	653	13 06
do 16	Monkseaton	Dundee			13	510	523	10 46
do 17	Mongolian	Liverpool			217	35	252	5 04
do 20	Ontario	Bristol			180	150	330	6 60
do 21	Labrador	Liverpool			121		121	2 42
do 21	Peruvian	Glasgow			295	172	467	9 34
do 21	Assyrian	Liverpool			382	75	457	9 14
do 22	Warwick	Glasgow			233	283	516	10 32
do 22	Hurona	Dundee			45	640	685	13 70
do 23	Canopus	Liverpool	202	30	50	60	110	2 20
do 24	Lake Superior	Liverpool			135		135	2 70
do 24	Sobraon	London	150		224		224	4 48
do 28	Oregon	Liverpool			177		177	3 54
do 28	Sarmatian	Glasgow			230		230	4 60
do 28	Brazilian	London		100	103	168	271	5 42
do 29	Concordia	Glasgow			178	229	407	8 14
do 29	Wandraham	Aberdeen			5	310	315	6 30
do 29	Lake Huron	Liverpool			166		166	3 32
	Total September		663	211	6,900	5,365	12,265	245 30
	do May, June, July and August		96	15,703	63,801	10,911	74,712	1,494 24
	do for this season to date			15,914	70,701	16,276	86,977	1,739 54
							Horses.	
May	Horses Shipped						511	
June	do						421	
July	do						203	
Aug	do						188	
Sept	do						185	
	Total this season to date						1,508	

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

RETURN of Live Stock shipped from the Port of Montreal to Europe, during the month of October, 1892.

Date.	Steamer.	Destination.	Sheep.	Cattle.			Fees collected.
				Fat.	Stockers	Total.	
							$ cts.
Oct. 1	Numidian	Liverpool		502		502	10 04
do 3	State of Georgia	Aberdeen			504	504	10 08
do 4	Steinhoft	do		9	214	223	4 46
do 5	Grecian	Glasgow		237		237	4 74
do 6	Lake Winnipeg	Liverpool		87		87	1 74
do 6	Alcides	Glasgow		225		225	4 50
do 6	Texas	Bristol		280	114	394	7 88
do 11	Montevidean	London		223		223	4 46
do 12	Grimm	Aberdeen			495	495	9 90
do 12	Pomeranian	London		209	115	324	6 48
do 12	Plassey	Bristol		151	178	329	6 58
do 12	Toronto	Liverpool		394		394	7 88
do 12	Lake Ontario	do		160		160	3 20
do 13	Indrani	Glasgow		200	32	232	4 64
do 17	Dominion	Bristol		254	188	442	8 84
do 18	Sarnia	Liverpool		251	20	271	5 42
do 18	Lake Nepigon	do		155	9	164	3 28
do 19	Buenos Ayrean	Glasgow		248		248	4 96
do 20	Amarynthia	do		163	146	309	6 18
do 21	Mongolian	Liverpool		481		481	9 62
do 23	Dracona	Aberdeen		20	175	195	3 90
do 24	Oxenholme	Liverpool		40	27	67	1 34
do 25	Labrador	do		119		119	2 38
do 25	Lake Superior	do		242		242	4 84
do 25	Rosarian	London		228		228	4 56
do 25	Peruvian	Glasgow		396	50	446	8 92
do 27	City of Lincoln	Liverpool		171	72	243	4 86
do 27	Warwick	Glasgow		126	91	217	4 34
do 28	Ontario	Bristol		221	93	314	6 28
	Total for the month			5,792	2,523	8,315	166 30
	Total for the season to date		15,914	76,493	18,799	95,292	1,905 84

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

REPORT of the Shipment of Live Stock from Port of Montreal from 1st May to 31st October, 1892, to different Ports in the United Kingdom.

Destination.	Sheep.	Cattle.				Horses.	Swine.	Fees Collected.
		Fat.	Stockers.	Total.	Lost at Sea.			
								$ cts.
Liverpool	11,581	27,187	699	27,886	71	514	1,262	557 72
London	1,640	8,028	316	8,344	5	56		166 88
Glasgow	105	24,652	3,572	28,234	65	1,066		564 68
Aberdeen		1,457	4,717	6,174	3			123 48
Dundee		1,619	6,367	7,986	4			159 72
Bristol	1,059	6,909	1,641	8,550	13	1		171 00
Newcastle	1,529	6,631	1,487	8,118	18			162 36
Total for this season to date	15,914	76,393	18,799	95,192	179	1,637	1,262	1,905 84
Estimate for balance of season		4,000	2,000	6,000		100		

RETURN of Live Stock shipped from the Port of Montreal to Europe during the month of November, 1892.

Date.	Steamer.	Destination.	Sheep.	Cattle.			Fees Collected.
				Fat.	Stockers	Total.	
1892.							$ cts.
Nov. 2	Oregon	Liverpool		138	10	148	2 96
do 2	Sarmatian	Glasgow		442	68	510	10 20
do 3	Concordia	do		148	15	213	4 26
do 4	Burnwall	Aberdeen		41	459	500	10 00
do 4	Lake Winnipeg	Liverpool		78		78	1 56
do 4	Hurona	Dundee		2	559	561	11 22
do 4	Numidian	Liverpool		284		284	5 68
do 7	State of Georgia	Aberdeen			190	190	3 80
do 7	Texas	Bristol		278		278	5 56
do 8	Brazilian	London		239		239	4 78
do 9	Grecian	Glasgow		160		160	3 20
do 10	Alcides	do		89		89	1 78
do 12	Lake Ontario	Liverpool		20		20	0 40
do 16	Pomeranian	Glasgow		140		140	2 80
do 16	Toronto	Liverpool		380		380	7 60
do 19	Indrani	Glasgow		46		46	0 92
do 22	Sarnia	Liverpool		107		107	2 14
	Total			2,642	1,301	3,943	78 86

RECAPITULATION.

Month.	Sheep.	Cattle.			Fees.
		Fat.	Stockers.	Total.	
					$ cts.
May	391	16,287	424	16,711	334 22
June	1,153	17,157	1,343	18,500	370 00
July	11,239	16,288	3,192	19,480	389 60
August	2,920	14,069	5,952	20,021	400 42
September	211	6,900	5,365	12,265	245 30
October		5,792	2,523	8,315	166 30
November		2,642	1,301	3,943	78 86
Total	15,914	79,135	20,100	99,235	1,984 70

The "State of Georgia," which left Montreal on the 3rd of October, went ashore and the cattle were transferred to the ss. "Grimm" which left Montreal on the 12th of the same month. These cattle have, therefore, been counted twice in the month of October; the corrected figures have been arrived at by deducting 504 from the total. The corrected figures for the number of horses, cattle, sheep and swine carried, and the number of cattle reported lost to date will, therefore, stand as follows :—

	Number.
Horses	1,739
Cattle	98,731
Sheep	15,914
Swine	1,262
Cattle lost	622

GEO. H. POPE,
E. B. MORGAN,
Inspectors.

APPENDIX No. 12.

LIST of persons to whom rewards have been granted by the Government of Canada, for the year 1892, for gallant and humane services rendered in saving life from shipwrecked Canadian vessels, or by British or Foreign Governments for similar services rendered by Canadian vessels in saving life from shipwrecked British and Foreign vessels for same period.

Names and Designations of Persons.	Nature of Service rendered.	Date of Service rendered.	Description of Reward.
James Burrell.....	Rescuing two young men from drowning off Little Harbour in the Georgian Bay.	Oct. 19, '77	$20 to widow of Jas. Burrell.
Captain Stephen Gerrior; mate of schooner "Isabella."	Heroic conduct in rescuing the crew of the brigantine "Wilhelmina," of Lunenburg, N.S., at sea.	Nov. 29, '88	$30 to widow of Capt. Gerrior.
Captain B. Dawson, master; Wm. Pick, mate; Arthur J. Leng, John Allen and Wm. Rush, seamen, of ss. "Charrington," of Sunderland.	Rescuing shipwrecked crew of the barque "Carrier Dove," of St. John, N.B., abandoned at sea.	May 22, '90	A binocular glass to master; a silver watch to mate, and $10 to each seaman.
Karaki Kei, headman of village Yasha Mura; policeman and 4 employees in office of headman, and 25 men, inhabitants of the Loochoo Islands, on the coast of Japan.	Kind and humane treatment to the survivors of the shipwrecked crew of the ship "Lizzie C. Troop," of St. John, N.B.	Sept. 22, '90	A binocular for use at headman's office; £6 to headman; £2 to policeman and to each of the four employees, and £1 to each of the others.
Mr. Jesse O'Brien, of West Bay, Ont.	Saving an eight-year-old boy from drowning at West Bay, Lake Huron.	June 6, '91	A bronze medal and certificate from the Royal Humane Society of London, Eng.
Captain George Von Hugo, master; Henry Meyer, 1st officer; Henry Bernhard Meyer, 2nd officer, of the German ship "Sophie."	Services to the shipwrecked crew of the barque "Exile," of St. John, N.B.	do 11, '91	A binocular glass to captain, and a gold watch to each of the two officers.
Mr. Ward Hanes, Toronto; Mr. Grant Gibbons, Morrisburg.	Risking their lives in saving Miss Anna McDonald from drowning at Morrisburg, Ont.	Aug. 5, '91	A bronze medal and certificate to each of the young men from the Royal Humane Society of London, Eng.
Mr. Arthur Stewart, Houston.	Saving Mrs. George Haman and her son from drowning in the Niagara River.	do 25, '91	A bronze medal and certificate from the Royal Humane Society of London, Eng.
Peter McDonald, mate; Peter Martin, Frank McCarey, Wm. McCarey and Angus Campbell, seamen of steamer "Princess of Wales," Charlottetown, P.E.I.	Humane and gallant exertions in rescue of shipwrecked crew of schooner "British Pearl," of Guysborough, N.S., foundered off Point Prim, P.E.I.	Sept. 8, '91	A binocular glass to mate, and $10 to each of the men.
Alex. McLellan, pilot; Theodore Martel and John McIsaac, fishermen of Little Glace Bay, C.B.	Rescuing crew of the Newfoundland schooner "Charles Tupper" at Glace Bay, C.B.	Oct. 17, '90	The high approbation of the Government of Newfoundland.
Captain W. H. Thomas, master; and 19 men of the crew of the American schooner "Horace B. Parker," of Gloucester, Mass.	Rescuing the shipwrecked crew of the ship "Eurydice," of St. John, N.B.	Dec. 20, '90	A gold watch to captain, and $10 to each of the men.

List of persons to whom Rewards have been granted, &c.—*Concluded.*

Names and Designation of Persons.	Nature of Service rendered.	Date of Service rendered.	Description of Reward.
Captain E. Guild, master; N. F. Sandholm, mate; Thomas Barr, John Hartley, Ernest Hicks and James Embley, seamen of the British ship "Cyprus."	Rescuing shipwrecked crew of the brigantine "Clara" at sea.	Sept. 30, '91	A binocular glass to master, a silver watch to mate and £2 to each of the seamen.
Mr. Rufus Parker, a seaman of the wrecked schooner "Hilda Maud."	Meritorious conduct in rescuing the members of the crew of the "Hilda Maud," wrecked near Cranberry Head, N.S.	Oct. 19, '91	A silver watch.
George H. Brown, master; L. M. Crowell, second mate; John Inder and E. Smith, seamen of the American steamship "Carroll," of Boston, Mass.	Humane and gallant exertions in the rescue of the shipwrecked crew of the schooner "L. B. Hatch," of Annapolis, N.S.	do 25, '91	A binocular glass to master, a silver watch to mate and $15 to each of the seamen.
Captain Vincenzo Preve, master of the Italian barque "Guisseppe Accame," of Savona.	Conveying crew of the ship "James G. Bain," of Pictou, N.S., on the occasion of the burning of the vessel, and landing them, after 12 days of kind treatment, at Buenos Ayres.	Nov. 9, '91	A letter of thanks.
Captain Joseph Parsons with a volunteer crew of 10 men, the life-boat of Port Colborne light station.	Rescuing crew of the American schooner "Montcalm," went ashore 12 miles from Port Maitland, Ont.	do 18, '91	$50.
Captain Mark Berry, John Landers, mate, and Arthur McKenzie, seamen of the schooner "M. P. Murray," with coxswain and three of the life-boat at Port Stanley.	Rescuing crew of the Canadian schooner "E. G. Benedict."	do 19, '91	$35.
George Brewster	Saving a boy from drowning at Sand Lake, near Westport, Ont.	Dec. 25, '91	An honorary bronze medal and a certificate from the Royal Humane Society of London, England.
Captain Samuel B. Davis, master, the mate and three seamen of the sailing ship "Arlington," of Yarmouth, N.S.	Rescuing shipwrecked crew of the barque "Countess of Dufferin," of Londonderry, on the North Atlantic.	do 30, '91	A gold watch to master, a silver watch to mate and a bronze medal and £3 to each of the three seamen.
The crew of the Coskata life-saving station, Nantucket Island, U.S.	Services in rescue of the shipwrecked crew of the schooner "H. B. Kirkham," of Liverpool, N.S., abandoned at sea.	Jan. 21, '92	$75.
The Cobourg life-boat crew....	Brave attempt made to save H. E. C. Stoney from drowning on Lake Ontario.	Mar. 19, '92	$25.
The volunteer crew of the boats of the Humane Society of the Commonwealth of Massachusetts.	Rescue of the shipwrecked crew of the schooner "Rob and Harry," of St. John, N.B., near Cutty Hunk Island, on the coast of Massachusetts.	do 11, '92	$100.
Captain Antonio Francisco de Rosa, master; Senor Costa, second mate, and four seamen of the Portuguese mail steamship "Vega," of Lisbon.	Rescue of the two survivors of the British schooner "May Gibson," of Port Medway, N.S., lost at St. Michaels, Azores.	Aug. 23, '92	A binocular glass to master, a silver watch to second mate and £2 to each of the four seamen.

APPENDIX No. 13.

H. M. Newfoundland Survey,
Charlottetown, P.E.I., 11th Nov., 1892.

The Deputy Minister of Marine,
Ottawa.

Sir,—In reply to your letter of the 8th instant I have to state:—

1. The hydrographic survey of Anticosti was commenced, under instructions from the Hydrographer of the Admiralty, on 1st July and continued, when the weather permitted, until 12th October, 1892.

2. The portion completed up to that date extends from Table Head round Heath Point to a point 10 miles west of Bagot Bluff lighthouse, the soundings being carried out to a depth of 50 fathoms.

3. If the whole of the south coast be surveyed, it is probable that it will be completed during the summer of 1893.

4. I cannot inform you exactly as to the cost of the work until I am in possession of the Hydrographer's views on some points connected with it, but I may state that the approximate cost of last season's work on this coast will amount to about £3,500, and it is likely that about £5,000 more will be required to complete the survey to West Point.

I have the honour to be, sir,
Your obedient servant,

WM. TOOKER,
Staff Com., R.N., in charge of Survey.

APPENDIX

BEING a Statement relative to Life-boat Stations

Stations.	Established.	Coxswain.	Number of Crew.	Salary of Coxswain.	Wages of Crew.
Blanche, N.S.	Sept. —, 1889	W. A. B. Smith.	6	$75 per annum and $1.50 for each drill.	$1.50 each drill, twice a month.
Cape Sable, N.S.		Light-keeper	No organized crew.		
Cobourg, Ont.	Nov. 7, 1882	D. Rooney	6	$75 per annum and $1.50 for each drill.	$1.50 each drill, twice a month.
Collingwood, Ont.	Sept. 2, 1885	P. Doherty	6	do	do
Devil's Island, N.S.	1885 Reorganized in 1890.	Fredk. Edward	6	do	do
Duncan's Cove, N.S.	1886	R. E. Monk	6	do	do
Goderich, Ont.	Oct. 21, 1886	Wm. Babb	6	do	do
Herring Cove, N.S.		James Dempsey.	No organized crew.		
Mud Island, N.S.		Jacob Pitman	do	$80	
Pelée Island, Ont.		A. Henning	6	$75 per annum and $1.50 for each drill.	$1.50 each drill, twice a month.
Pictou Island, N.S.	Nov. 23, 1889	D. McLean	6	do	do
Poplar Point, Ont.	April 20, 1883	L. Spafford	6	do	do
Port Hope, Ont.	Nov. 6, 1889	C. R. Nixon	6	do	do
Port Mouton, N.S.	Nov. —, 1889	J. Maxwell	6	do	do
Port Rowan, Ont.	Oct. 19, 1883	J. W. McCall	6	do	do
Port Stanley, Ont.	June 25, 1885	Wm. Berry	6	do	do
Sable Island, N.S.	1885.	Supt. Humane Establishment.	From staff of Humane Establishment.	Paid as superintendent and staff of Humane Establishment.	
Scatterie, N.S.	1885 Reorganized in 1890.	Jas. N. Brown	6	$75 per annum, and $1.50 for each drill.	$1.50 each drill, twice a month.
Seal Island, N.S.	1880	Light-keeper	No organized crew.		
St. Paul's Island, N.S.		Supt. Humane Establishment.	do		
Tormentine, Cape					
Toronto, Ont.	Mar. 1, 1883	Wm. Ward	6	$75 per annum, and $1.50 for each drill.	$1.50 each drill, twice a month.
Wellington, Ont.	Mar. 17, 1883	H. McCullough	6	do	do
Whitehead, N.S.	June 6, 1890	H. P. Munroe	6	do	do
Yarmouth, N.S.	1886 Reorganized in 1889.	R. Carroll	6	do	do

No. 14.

maintained by the Dominion Government in Canada.

Value of Boat.	Description of Boat.	Equipment.	Where Built.	Expenditure for fiscal year ended 30th June, 1892.
$				
575	Self-righting and self-bailing, 25 feet over all, 8 feet beam, Dobbins' pattern.	Full equipment, as required in regulation boat-house.	Dartmouth, N.S.	
	Metallic life-boat, 16 feet keel, 5 feet beam.	Ordinary outfit		
575	Self-righting and self-bailing, 25 feet over all, 8 feet beam, Dibbins' pattern.	Full equipment, as required in regulation boat-house.	Goderich, Ont.	
575	do	do	do	
575	do	do	Dartmouth, N.S.	
575	do	do	do	
575	do	do	Goderich, Ont.	
	Metallic life-boat, 28 feet keel, 6 feet beam.	Full equipment	New York	
	Fishing boats and doreys (not Government property).			
575	Self-righting and self-bailing, 25 feet over all, 7 feet beam, Dobbins' pattern.	Full equipment, as required in regulation boat-house.	Goderich, Ont.	
575	do	do	Dartmouth, N.S.	
550	Self-righting and self-bailing, 26 feet over all, 7 feet beam, Dobbins' pattern.	do	Buffalo, U.S.	
620	do	do	Goderich, Ont.	
575	do	do	Dartmouth, N.S.	
	Surf boat, 26 feet long, 6½ feet beam.	Full equipment and boat-house.	Buffalo, U.S.	
575	Self-righting and self-bailing, 25 feet over all, 7 feet beam.	do	Goderich, Ont.	
	Two boats as described above, Dobbins' pattern; one ordinary life-boat fitted with air-tight compartments; one metallic life-boat; one surf boat; and one large despatch boat, schooner rigged, equipped for sea going.	Boat-houses, full equipments, &c.		
	Self-righting, &c., same as others, Dobbins' pattern, and clinker-built ships' life-boat, 21 feet keel.	Full equipment and boat-house.	Dartmouth, N.S.	
	Wooden life-boat, 25 feet long, 6 feet beam, fitted with air-tight compartments.	do	Halifax, N.S.	
	Two surf boats, one 25 feet over all, 6½ feet beam, the other 23 feet long, 4 feet 8 inches beam.		do	
		Not yet equipped		
575	Self-righting, &c., same as others, Dobbins' pattern.	Full equipment and boat-house.	Goderich, Ont.	
1,400	do	do	Buffalo, U.S.	
575	do	do	Dartmouth, N.S.	
575	do	do	do	

APPENDIX No. 15.

55-56 VICTORIA.

CHAP. 17.

An Act respecting the Department of Marine and Fisheries.

Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. There shall be a department which shall be called "The Department of Marine and Fisheries," over which the Minister of Marine and Fisheries for the time being appointed by the Governor General by Commission under the Great Seal shall preside; and the Minister shall have the management and direction of the said department and shall hold office during pleasure.

2. The Governor in Council may appoint an officer who shall be called the Deputy Minister of Marine and Fisheries and who shall be the deputy head of the Department of Marine and Fisheries; and the Governor in Council may also appoint such other officers as are necessary for the proper conduct of the business of the said department, all of whom shall hold office during pleasure.

3. The duties, powers and functions of the Minister of Marine and Fisheries shall extend and apply to the subjects and boards and other public bodies, officers and other persons, and services and properties of the Crown, enumerated in the schedule to this Act, of which the said Minister shall have the control, regulation, management and supervision.

4. The Governor in Council may at any time assign any of the duties and powers hereby assigned to and vested in the Minister of Marine and Fisheries to any other member of the Queen's Privy Council for Canada and his department; and from the period appointed for that purpose by Order in Council such duties and powers shall be transferred to and vested in such other member of the Queen's Privy Council for Canada and his department.

5. The Minister shall invite tenders by public advertisement for the execution of all works, except in cases of pressing emergency in which delay would be injurious to the public interest, or where, from the nature of the work, it can be more expeditiously and economically executed by the officers and servants of the department; and the said Minister shall also in like manner invite tenders for all contracts for supplies.

6. The Minister, whenever any public work is being carried out by contract under his direction, shall take all reasonable care that good and sufficient security is given to and in the name of Her Majesty for the due performance of the work, within the amount and time specified for its completion; and whenever it seems to the Minister inexpedient to let such work to the lowest tenderer, he shall so report and shall obtain the authority of the Governor in Council previous to passing by such lowest tender.

7. The Minister shall make and submit to the Governor General an annual report on all the works under his control, to be laid before both Houses of Parliament within fifteen days from the commencement of each session, showing the state of each work and the amount received and expended in respect thereof, with such other information as is requisite.

8. This Act shall be substituted for chapter twenty-five of the Revised Statutes, which is hereby repealed.

SCHEDULE.

1. Pilots and pilotage, and Decayed Pilots' Fund.
2. The construction and maintenance of lighthouses, light-ships, fog-alarms, buoys and beacons.
3. Ports and harbours, harbour commissioners and harbour masters.
4. Piers, wharves and breakwaters, and the collection of tolls in connection therewith, and the minor repairs on such properties.
5. Steamships and vessels belonging to the Government of Canada engaged in connection with services administered by the Minister of Marine and Fisheries.
6. Sick and distressed seamen, and the establishment, regulation and maintenance of Marine and Seamen's hospitals.
7. River and harbour police.
8. Humane establishments.
9. Life-boat service, and rewards for saving life.
10. Inquiries into causes of shipwrecks and casualties, and the collection of wreck statistics.
11. Inspection of steamboats and examination of engineers, and inquiry into accidents to steamers and the conduct of engineers.
12. Examination of masters and mates.
13. Registration and measurement of shipping, and preparation of returns of registered shipping of Canada.
14. Meteorological and magnetic services.
15. Tidal observations on the coasts of Canada.
16. Climatology of Canada.
17. Inspection of vessels carrying live stock from Canada to Europe.
18. Shipping of seamen, shipping masters, and shipping offices.
19. Winter communication between Prince Edward Island and the mainland by steamer and iceboats.
20. Hydrographic surveys.
21. Administration of deck-load law, and the subject of deck and load lines.
22. Removal of wrecks and other obstructions in navigable waters.
23. Sea, coast and inland fisheries, and the management, regulation and protection thereof, and everything relating thereto, and the payment of fishing bounties.
24. Any other duty or power assigned to the Minister of Marine and Fisheries by the Governor General in Council; and generally all such matters as refer to the Marine and Fisheries of Canada.

APPENDIX No. 16.

DETERMINATION OF LONGITUDE OF MONTREAL.

MONTREAL, 29th October, 1892.

The Honourable
The Minister of Marine and Fisheries,
Ottawa.

SIR,—I have to report that the observations connected with the Montreal longitude determination have been completed, but that the final reductions of the work have yet to be made. Owing to the engagements of the English observers in the re-determination of the longitude of Paris, it was not found practicable to carry out the work of the Montreal determination in precisely the manner indicated in former reports. As the Paris work was arranged to take place in June and July, the first half of our work was fixed for April and May, and the latter half for August and September. We were thus fortunately able to adhere to the programme previously agreed upon in so far as it required that the work should be done under conditions differing as greatly as possible as regards weather.

Owing to the inability of Prof. Chandler to take part in the work, it became necessary to procure a substitute to act as the second Canadian observer. After conference with yourself and Mr. Carpmael and by the courtesy of the Minister of the Interior and the Surveyor General, Mr. O. J. Klotz, D.L.S., was appointed to the work. The English observer in charge was Mr. H. H. Turner, Chief Assistant, Royal Observatory, and the second observer, Mr. H. P. Hollis, Assistant in the Royal Observatory.

After some preliminary observations here for personal equation with Mr Klotz, I went to Canso, arriving there on 13th April. Mr. Turner at the same time occupied the station at the Irish terminus of the cable (Waterville, County Kerry). The final arrangements of the methods of transmitting the signals through the cable had yet to be decided upon. After conference with Mr. Turner and the Superintendents at the two stations, involving much discussion over the cable and a series of experiments extending over several days, a satisfactory method of exchanging signals was arrived at, the siphon recorder being used to replace the chronograph as ordinarily employed in land line work. I am glad to say that most satisfactory results were obtained, the "probable error" of the clock comparisons through the cable being but slightly greater than through land lines.

The astronomical observations of the first stage extended from 19th April to 26th April. The English observers and also the Canadian observers then exchanged stations, Mr. Turner occupying Greenwich; Mr. Hollis, Waterville; Mr. Klotz, Canso; and Mr. McLeod, Montreal. Astronomical observations were commenced on 4th May and ended on 18th May. The Canadian observers then observed at Montreal for personal equation, while the English observers attained the same end by comparisons with the "standard observer" at Greenwich, both in this and in the Paris work.

On 26th June I sailed for England, and arrived at Greenwich on 6th July. It had been arranged that I should observe for personal equation with Mr. Turner, who was at this time occupying Greenwich in connection with the Paris work. After much delay on account of cloudy weather, observations were finally obtained and our equation further strengthened by comparison with the standard observer.

Mr. Turner arrived in Montreal on 15th August. The observations of the second stage were commenced the next day and completed on the 30th. Upon this stage, in which Mr. Turner observed in Montreal and myself at Greenwich, along with the second stage of the work, in which Mr. Turner was at Greenwich and myself at Montreal, the determination will chiefly rest. Having this in view, it was our aim to secure as many nights as possible which were clear at both Montreal and Greenwich. The second stage gives four such nights, which are fully available, and the third stage six full nights clear at both terminal stations.

In the fourth or last stage, in which Mr. Turner occupied Canso; Mr. Klotz, Montreal; Mr. Hollis, Greenwich; and Mr. McLeod Waterville, observations were made from the 4th to the 16th of September, after which I immediately returned to Montreal. By arrangement, Mr. Turner was in Montreal during two days after my return for the purpose of discussing the results of the work and its reduction and publication.

A first reading of all star transit records has been made, and also of the time exchange signals. The work of check reading all the traces and the final reductions of clock errors is now going forward. The computations should be completed early next year. The work of the several observers will then be discussed and the results deduced by Mr. Turner and myself in accordance with an arrangement between us. The Astronomer Royal desires that the work should be published simultaneously in England and Canada. In England it will appear as a publication of the Royal Observatory, and in Canada, it is hoped, the Royal Society, which has already shown great interest in the work, may afford it a place in its transactions.

As you are aware the free use of the cables of the Commercial Cable Company and of the land lines of the Canadian Pacific Telegraph Company were granted for this work. We are under deep obligations to Mr. C. R. Hosmer, Manager, Canadian Pacific Railway Company's Telegraph, for his kindness in procuring the use of the lines as well as for his continued courtesy and assistance throughout the work. The special thanks of all concerned are also due to Mr. Dickenson, Superintendent Commercial Cable Company at Canso, Mr. Wilmot, Superintendent at Waterville and to Mr. Upham, Assistant Superintendent at Canso, for assistance most cheerfully given at all stages of the work. The methods by which the cable signals were conducted being entirely new could not have been brought to a successful issue without the great technical knowledge of these gentlemen.

I have the honour to be, sir,

Your obedient servant,

C. H. McLEOD,

Supt. McGill College Observatory.

APPENDIX No. 17.

STATEMENT OF EXPENDITURE by the Marine Department from Confederation to 30th June, 1892.

—	1868.	1869.	1870.	1871.	1872.	1873.	1874.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Maintenance of Lights—							
Above Montreal	40,561 28	42,306 69	46,289 05	44,054 01	57,609 16	61,036 47	60,798 75
Montreal District	23,053 56	25,762 54	21,699 49	22,453 52	22,369 00	31,143 14	20,939 13
Below Quebec	45,615 65	41,651 73	43,730 61	31,582 75	41,936 00	65,545 00	102,056 09
Nova Scotia	46,460 72	56,394 88	43,682 86	76,230 77	67,862 34	100,953 80	114,711 91
New Brunswick	20,488 00	23,893 00	27,485 14	20,542 29	23,369 12	29,266 85	53,439 04
Prince Edward Island							3,357 71
British Columbia						13,207 09	18,519 50
Construction—							
Above Montreal	3,136 15		2,976 83	8,770 55	6,940 45	18,999 38	24,461 86
Quebec	7,323 75	7,492 59	1,543 06		57,818 35	39,303 87	41,950 82
Nova Scotia	22,041 42	6,905 80	18,967 23	10,948 31	34,760 12	90,181 79	51,867 94
New Brunswick			11,555 91	8,735 73	9,561 14	16,691 06	31,572 60
Prince Edward Island							
British Columbia							4,353 93
Dominion Steamers—							
Quebec	69,026 73	37,176 02	34,549 49	59,797 05	47,500 00	51,758 05	64,490 00
Nova Scotia	14,778 92	26,603 94	19,759 96	13,139 86	20,999 63	24,999 57	30,008 99
New Brunswick							
Prince Edward Island							
British Columbia					12,115 96	15,984 72	10,555 67
Examinations of Masters and Mates			918 12	1,407 66	4,312 07	6,466 18	4,520 19
Hudson's Bay Expedition							
Investigations into wrecks			140 00		874 00	1,068 89	2,313 31
Marine Hospital, Quebec	19,977 36	19,221 45	21,618 73	19,823 18	21,000 00	21,000 00	20,456 45
Marine Hospitals	1,070 86	15,615 71	15,652 62	15,728 93	23,536 16	27,150 43	45,986 87
Meteorological Service	8,200 00	8,950 00	8,950 00	9,379 82	12,618 15	18,830 54	36,760 59
Registration of Canadian Shipping							272 30
Removal of obstructions			2,350 07	1,000 00			
Rewards for saving life					2,284 32	1,975 18	4,931 78
Signal Service							1,000 00
Steamboat Inspection	7,106 93	7,999 00	7,396 96	8,321 00	8,500 00	13,266 00	10,291 58
Survey Georgian Bay							
Water Police, Montreal	27,145 35	10,238 71	9,423 31	8,030 00	10,000 00	14,453 87	12,370 86
do Quebec		12,623 59	9,038 62	9,370 73	10,348 00	18,200 00	26,526 66
Civil Government	15,083 88	18,064 25	19,401 05	20,220 96	22,644 52	25,336 04	30,087 23
Steam Communication—							
Between Quebec and Maritime Provinces							15,000 00
Between Prince Edward Island and Mainland							
Purchase of str. to replace—							
"Glendon"							
"Lady Head"							
Winter Mail Service, P.E.I.							
Tidal Observations							
Gratuities							
Survey, Burrard Inlet							
Export Cattle Trade							
	371,070 56	360,899 90	367,129 11	389,537 12	518,958 49	706,817 92	845,159 09

APPENDIX No. 17.—STATEMENT of Expenditure by the Marine Department from Confederation to 30th June, 1892—*Continued.*

——	1875.	1876.	1877.	1878.	1879.	1880.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Maintenance of Lights—						
Above Montreal	71,937 18	68,344 18	65,421 00	73,175 11	74,587 78	65,518 61
Montreal District	15,000 00	12,999 48	15,998 00	15,996 09	14,917 95	16,523 88
Below Quebec	110,362 00	98,792 93	89,980 41	96,904 00	93,178 61	96,703 87
Nova Scotia	114,344 61	143,125 56	128,496 00	132,888 95	120,951 33	116,189 60
New Brunswick	60,119 02	62,551 61	50,998 00	58,989 00	57,499 02	61,252 82
Prince Edward Island	12,584 64	13,730 53	11,817 00	16,686 66	12,158 72	15,288 17
British Columbia	15,983 72	17,175 97	15,853 00	18,948 78	15,152 73	15,576 99
Construction—						
Above Montreal	14,286 65	13,320 40	16,267 98	7,207 90	11,993 75	13,297 81
Quebec	19,325 00	24,366 47	12,945 29	12,776 47	4,154 58	7,797 75
Nova Scotia	43,898 63	42,214 55	25,550 00	13,500 00	17,386 97	7,069 01
New Brunswick	8,842 97	17,819 85	7,083 82	12,028 13	22,598 14	4,985 53
Prince Edward Island	.....	11,829 61	17,752 00	2,504 47	2,560 88	6,074 80
British Columbia	8,799 07	8,477 67	29 66	.....	.....	.....
Dominion Steamers—						
Quebec	79,043 70	62,971 49	49,987 66	42,683 00	44,972 79	49,318 93
Nova Scotia	22,992 62	133,826 08	38,839 29	43,027 00	42,016 53	32,574 64
New Brunswick	.....	.....	.....	.....	.....	.....
Prince Edward Island	.....	16,241 26	61,782 63	28,933 63	16,333 05	14,429 52
British Columbia	41,796 74	19,156 56	16,095 90	12,193 40	8,460 68	9,733 34
Examinations of Masters and Mates	5,696 62	4,672 08	4,050 00	4,249 76	4,250 12	4,253 43
Hudson's Bay Expedition	.....	.....	.....	.....	.....	.....
Investigations into wrecks	366 00	466 41	342 65	500 00	1,691 00	676 73
Marine Hospital, Quebec	21,994 75	23,795 85	19,965 97	19,987 50	20,791 77	19,991 22
Marine Hospitals	37,111 67	37,155 72	42,449 55	37,487 10	37,445 57	35,040 00
Meteorological Service	43,580 00	45,560 03	44,871 38	46,050 24	45,706 13	45,554 51
Registration of Canadian Shipping	1.096 46	412 06	842 14	1,435 10	239 26	257 75
Removal of obstructions	450 00	.....	293 00	462 00	305 86	825 00
Rewards for saving life	3,552 86	2,292 20	1,958 55	4,071 00	2,833 10	2,263 15
Signal Service	.....	.....	.....	.....	.....	.....
Steamboat Inspection	12,200 00	13,081 86	13,073 01	13,228 38	13,076 46	11,854 34
Survey Georgian Bay	.....	.....	.....	.....	.....	.....
Water Police, Montreal	13,395 00	14,090 00	13,524 29	14,062 00	13,462 74	13,131 06
do Quebec	24,500 00	27,136 68	21,482 08	23,498 06	23,023 76	22,094 48
Civil Government	31,326 18	32,789 18	32,304 12	32,682 50	33,610 19	35,083 95
Steam Communication—						
Between Quebec and Maritime Provinces	10,000 00	10,000 00	.....	.....	.....	.....
Between Prince Edward Island and Mainland	.....	750 00	.....	.....	.....	.....
Purchase of str. to replace "Glendon"	.....	.....	.....	.....	.....	.....
do do "Lady Head"	.....	.....	.....	.....	.....	.....
Winter Mail Service, P.E.I	.....	.....	.....	.....	.....	.....
Tidal Observations	.....	.....	.....	.....	.....	.....
Gratuities	.....	.....	.....	.....	.....	.....
Survey, Burrard Inlet	.....	.....	.....	.....	.....	.....
Export Cattle Trade	.....	.....	.....	.....	.....	.....
	844,586 09	979,146 27	820,054 38	786,156 23	755,359 47	723,360 89

APPENDIX No. 17.—STATEMENT of Expenditure by the Marine Department from Confederation to 30th June, 1892—*Continued.*

——	1881.	1882.	1883.	1884.	1885.	1886.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Maintenance of Lights—						
Above Montreal	67,541 21	71,048 50	70,116 68	70,788 27	70,697 89	85,718 98
Montreal District	14,326 36	21,643 05	22,250 32	22,946 43	23,262 94	33,289 28
Below Quebec	89,781 29	91,098 66	102,784 99	101,302 35	118,856 94	131,095 29
Nova Scotia	128,918 59	137,846 15	150,793 17	142,909 72	137,439 40	143,153 24
New Brunswick	63,921 90	66,073 00	75,947 92	86,670 70	92,130 28	76,046 63
Prince Edward Island	12,997 33	16,985 22	17,907 27	19,059 62	20,218 83	22,282 52
British Columbia	17,570 72	17,803 00	18,349 06	18,107 54	15,457 76	14,783 75
Construction—						
Above Montreal	14,180 02	13,581 00	9,782 27	18,432 63	27,977 42	36,678 16
Quebec	7,539 76	3,731 31	9,672 50	3,168 48	4,354 87	5,877 84
Nova Scotia	7,758 36	13,355 00	9,422 75	12,489 35	4,352 42	5,905 17
New Brunswick	4,578 52	2,253 80	1,022 57	2,868 70	7,667 42	2,421 66
Prince Edward Island	8,150 05	3,092 00	1,934 49	2,158 60	879 40	
British Columbia	8,645 39	3,237 90	1,005 26	9,830 38	5,223 11	4,942 70
Dominion Steamers—						
Quebec	64,973 00	44,923 98	45,156 13	43,019 13	51,092 98	41,485 03
Nova Scotia	34,700 60	31,049 74	37,841 07	27,726 60	42,921 27	30,283 27
New Brunswick						24,633 26
Prince Edward Island	15,139 95	23,911 97	19,680 00	19,539 52	33,962 54	20,927 58
British Columbia	11,788 09	8,504 61	25,484 00	16,111 83	12,485 07	13,430 69
Examinations of Masters and Mates	3,888 41	3,982 00	4,021 20	5,580 79	6,656 44	5,239 28
Hudson's Bay Expedition				480 69	71,374 69	35,217 10
Investigations into wrecks	310 48	863 19	875 64	830 12	385 15	592 63
Marine Hospital, Quebec	19,964 33	19,938 12	19,998 53	19,990 34	19,996 68	16,047 95
Marine Hospitals	32,218 94	33,162 45	29,880 78	31,401 30	35,371 29	32,229 02
Meteorological Service	46,163 54	47,464 07	51,990 25	56,418 16	56,625 46	56,898 33
Registration of Canadian Shipping	607 43	2,013 28	168 84	189 27	237 88	157 13
Removal of obstructions	150 00	1,116 51	35 80	342 76	2,259 21	1,237 34
Rewards for saving life	1,806 13	2,212 00	2,534 60	2,614 91	5,221 25	8,147 22
Signal Service			3,365 33	6,704 17	3,881 05	4,622 00
Steamboat Inspection	12,211 65	14,835 00	16,209 00	21,893 28	23,235 04	21,775 57
Survey Georgian Bay			77 81	26,745 54	20,454 68	17,759 36
Water Police, Montreal	21,953 26	21,994 74	15,798 24	19,021 93	17,683 59	20,933 75
do Quebec	13,497 81	20,321 82	22,520 41	22,958 79	20,399 33	22,922 82
Civil Government	36,447 50	36,789 46	37,988 39	38,775 00	29,900 83	30,453 57
Steam Communication—						
Between Quebec and Maritime Provinces						
Between Prince Edward Island and Mainland						
Purchase of str. to replace "Glendon"			395 55	56,164 71	47,238 03	
do do "Lady Head"						
Winter Mail Service, P.E.I.						5,985 42
Tidal Observations						
Gratuities						
Survey, Burrard Inlet						
Export Cattle Trade						
	761,730 62	774,831 53	825,010 82	927,241 61	1,029,901 14	980,120 59

APPENDIX No. 17.—STATEMENT of Expenditure by the Marine Department from Confederation to 30th June, 1892—*Concluded.*

—	1887.	1888.	1889.	1890.	1891.	1892.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Maintenance of Lights—						
Above Montreal	75,690 74	85,688 70	72,621 23	84,035 65	93,180 72	87,033 61
Montreal District	16,735 49	17,510 17	12,285 79	118,750 70	122,471 89	116,531 27
Below Quebec	131,540 80	108,278 67	112,680 20			
Nova Scotia	117,808 53	133,009 92	140,197 15	139,459 56	139,916 83	148,815 26
New Brunswick	96,425 28	73,465 49	78,285 79	61,608 91	61,089 31	66,886 69
Prince Edward Island	17,852 13	14,796 62	19,118 51	16,968 80	19,000 46	17,069 98
British Columbia	16,230 43	19,604 63	16,877 12	16,411 49	19,595 22	26,858 68
Cape Race	4,453 25	5,124 20	7,358 01			
Construction—						
Above Montreal	18,383 20	6,341 97	8,623 76		9,796 28	21,704 05
Quebec	1,260 00	2,287 86	12,203 06		3,723 14	809 27
Nova Scotia	5,330 89	2,533 48	6,039 91		4,596 94	1,965 16
New Brunswick	5,280 73	1,542 61	2,966 36	23,863 09	298 16	1,845 35
Prince Edward Island	384 60				410 00	1 56
British Columbia	321 84	6,918 00	1,890 00		14,417 25	9,478 81
Queen's Printer	26 58		40 14			
Dominion Steamers—						
Quebec	50,714 52					
Nova Scotia	32,287 10					
New Brunswick	14,337 23	150,659 19	126,629 33	114,959 20	111,437 03	145,899 61
Prince Edward Island	19,987 67					
British Columbia	10,809 07					
Department	13,288 83					
Examinations of Masters & Mates	4,858 98	5,063 96	4,381 04	4,117 83	4,255 24	6,363 88
Hudson's Bay Expedition	14,762 61	185 00				
Investigations into wrecks	529 14	513 91	516 67	888 94	1,172 77	603 21
Marine Hospital, Quebec	19,706 96	18,777 62	18,643 14	10,279 08	751 75	
Marine Hospitals	32,545 35	30,667 67	33,689 20	31,450 03	33,303 37	34,106 83
Meteorological Service	57,140 74	59,986 10	58,577 07	58,452 10	62,457 10	67,138 06
Registration of Canadian Shipping	233 13	879 02	179 21	647 52	1,207 07	462 59
Removal of obstructions	4,190 83	2,500 94	3,603 65	5,737 26	3,633 65	2,878 68
Rewards for saving life	7,363 94	6,825 48	5,503 44	8,150 92	4,952 20	6,398 93
Signal Service	5,082 17	4,441 59	5,092 54	4,976 89	4,700 79	5,014 42
Steamboat Inspection	22,837 80	21,430 45	22,313 03	20,989 52	22,183 76	22,736 59
Survey Georgian Bay	21,592 55	19,424 14	17,808 46	17,969 23	17,677 51	16,451 10
Water Police, Montreal	17,413 47	18,725 95	16,948 82	13,167 00	573 80	
do Quebec	22,935 65	18,553 57	14,698 68	8,620 61	7,279 85	6,161 60
Civil Government	37,193 62	32,728 78	43,501 96	42,835 78	43,253 67	43,195 51
Steam Communication—						
Between Quebec and Maritime Provinces						
Between Prince Edward Island and Mainland			143,595 60			
Purchase of str. to replace—						
"Glendon"						
"Lady Head"						
Winter Mail Service, P.E.I.	6,312 93	7,740 25	1,842 47	2,752 67	7,012 70	3,309 44
Tidal Observations				244 75	1,888 71	711 59
Gratuities			200 00	80 00	1,025 00	
Survey, Burrard Inlet					1,690 12	2,580 45
Export Cattle Trade					520 85	1,411 57
	917,557 31	883,250 85	1,023,801 34	807,417 53	885,410 11	861,426 80

APPENDIX No. 18.

COMPARATIVE STATEMENT of Lighthouses, &c., and Steamers of the Marine Branch maintained in the respective Agencies.

DISTRICT.	Light stations.	Lights.	Keepers.	Light-ships.	Fog-whistles.	Fog-horns.	Fog-bells.	Fog-guns or bombs.	Whistling buoys.	Bell-buoys.	Gas buoys.	Steamers.	Total expenditure for each Agency.	Salaries paid Agents.	Number of Persons employed in each Agency.
	*	*											$ cts.	$	
Province of Ontario	172	210	166	4	2	9	3	....	....	2	.....	.....	.....	.....	
Light-ships	4	4	....	....	...	...	....	....	....	....	.....	.....	87,033 61		
Province of Quebec	114	150	135	8	2	8	....	9	..	.. .	10 (4 with bells)	3	155,272 40	4,590	5—Agent, L. A. Blanchet, 3 clerks.
Light-ships	8	8	. ..	...	3	.. .	1	....	....	....	....	....			
Province of Nova Scotia	169	175	174	1	10	6	2	1	12	9	....	1	187,070 60	5,200	5—Agent, A. D. Tremaine, clerk, messenger, inspector.
Fog-alarms	2	2	...	....	....	....	....	....	....	....	. . ..	.. .. ..			
Light-ships	1	1	.....	....	....	....	....	....	....	....	.. ..	....			
Province of New Brunswick	94	118	100	1	4	8	. .	1	4	3	....	1	97,404 78	3,400	3—Agent, F. Harding, messenger.
Fog alarms	3	3	.....	....	....	....	....	....	....	..	.. .. ..	.....			
Light-ships	1	1	.....	....	....	....	....	....	....	..	....	.....			
Province of Prince Edward Island.	34	52	40	....	....	1	...	...	2	1	....	S.S. "Stanley."	57,172 66	1,400	1—Agent; $425 voted for warehouseman.
Province of British Columbia	13	13	15	...	1	3	4	....	....	1	.. . .	2	66,053 61	1,975	2—Agent, messenger, and $250 allowed for clerica assistance.
Lighted buoys	2	4	. ..	....	...	....	...	....	...	....	. .....	.....			
	617 *	741 *	630	14	22	35	10	11	18	16	10				

* Light-ships and fog-alarms where there are no lights are in these two columns included in the total number of light stations and lights in the Dominion.

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PART II

FISHERIES

REPORT

OF THE

DEPUTY MINISTER.

To the Honourable
CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—I have the honour to report on the transactions of the Fisheries Branch of this department for the fiscal year ended the 30th June last, and to give an account of a portion of the business up to date.

This report contains statements of expenditure, receipts, fishing bounties, etc. and treats of the Fish-culture, Lobster Hatching and Oyster culture, Fisheries Protection Service, Fisheries Intelligence Bureau, Close Seasons of Fish, Fishery Regulations, articles on Bass, Sturgeon, Cod, Mackerel and Oyster Fisheries, Behring Sea Question, Russian Seizures, Newfoundland Bait Act, International Legislation Provincial Rights in inland and non-navigable Waters, interesting extracts from the Report of the Commissioners of Fisheries for the State of New York, 1892, and from the Fishery Board of Scotland's Report for 1891, as well as the following appendices:—

No. 1. Schedule of Fishery Officers in the Dominion.

No. 2. Detailed Statements *re* Fishing Bounty Claims for 1891.

No. 3. Fisheries Protection Service, by Commander Wm. Wakeham.

No. 4. Fisheries Intelligence Bureau, by W. M. Hutchins.

No. 5. Preliminary Reports of the Inspectors of Fisheries.

No. 6. List of applications for Oyster culture.

No. 7. List of employés by the U. S. Commission of Fish.

A supplement will be issued at a later date, comprising all the statements of the yield and value of the Canadian fisheries, as well as full reports from the different Inspectors of Fisheries for the calendar year of 1892.

REPORTS OF INSPECTORS OF FISHERIES.

At the time the inspectors were directed to prepare concise reports on the general result of the fisheries in their districts, it was too early to give reliable data as to the season's yield. Sufficient information has, however, been adduced to enable the department to fairly judge what the full statement of the products of the sea fisheries will be. These reports, which will be found at Appendix No. 5, are briefly summarized as follows:—

Nova Scotia.

In Cape Breton Island it is apprehended that the total yield will be much below that of previous years, owing to a failure in the staple kinds of fish, viz., cod,

herring and mackerel. The lobster pack will probably show a shortage of over 30 per cent, as compared with 1891. The only fisheries which exhibit an increase are the salmon and alewives.

In Nova Scotia proper, although the falling off will not be as marked as in Cape Breton, the general yield will also probably fall short of the average, with the exception of the western coast, where the lobster industry held its own.

New Brunswick.

In the Bay of Fundy the catch will prove an average one, yielding about the same as last year. Large schools of mackerel struck in early in July, being sought by United States seiners. Good hauls were made in September, but in October the fish suddenly disappeared. The herring fishery was less advantageous than last year.

In Baie des Chaleurs and Northumberland Strait the inspector relies upon a larger yield than last year, notwithstanding a decline in the smelt fishery of the Miramichi district, due to the lateness of the ice forming on the rivers. With the exception of Westmoreland, where there was a falling off in the catch of lobsters, other counties will show a surplus over the pack of 1891. Mackerel were abundant, and the aggregate yield will exceed that of the previous year all along the eastern coast. While the oyster-beds of Kent County are suffering from over-fishing through the ice, those of Northumberland are reported as gradually improving.

Quebec.

The catch in the Gulf and River St. Lawrence will be an average one. The slight decrease on the south shore will be more than compensated by the increase on the north coast. Cod fishing was generally good, beginning early and lasting till late in the season. On the north shore and the coast of Labrador, cod fishing was the best on record. United States vessels visited the coast of Labrador this year for cod fishing for the first time since 1858. The celebrated Labrador herring fishery was a partial failure. Mackerel were more abundant than usual. The regulation prohibiting the use of purse-seines was well observed, and only one case of leaving gill-nets in the water during daytime was reported. The lobster catch on the mainland was as abundant as usual, but at Magdalen and Anticosti Islands it suffered considerably owing to destructive storms. Seal hunting, though not up to the figures of former years, was better than the previous season.

Prince Edward Island.

No reliable data have been supplied, but from what the officers collecting fishing bounty claims report, it is presumed that the general yield will be well up to the average, and in some parts of the island even exceed that of last year.

Manitoba.

The fishing season is reported to have been exceptionally good in Lake Winnipeg. Whitefish were unusually abundant, the summer catch alone exceeding three million pounds. Pickerel were abundant, but not much sought after. Permission was granted to fish for coarse fish during the fall close season under special

permits issued by the inspector. It is expected that the hatchery now being built at Selkirk will be able to stock the small lakes of Manitoba with better food fish than are at present found there.

North-west Territories.

The Fisheries Protection Service is being gradually extended to the Territories. The co-operation of the Mounted Police Force will undoubtedly lead to beneficial results as far as the protection of fish and the observance of fishing laws are concerned. The question of Indians and Half-breeds fishing during the close season for their own use, but not for barter or sale, is a difficult one to settle. Several small lakes are already nearly exhausted by over-fishing during the breeding season.

British Columbia.

The fisheries of this province are reported to be on a satisfactory footing, and may yield above the average. The salmon pack will probably exceed that of last year by over half a million cans. In addition to this 750,000 pounds of fresh salmon, more than last year, were sold. A new process of canning white salmon for shipment to Europe is being experimented upon, and should this venture prove successful it will become a great boon to fishermen, as these fish are now considered of very little value. The halibut fishery seems the most prosperous of the deep-sea fisheries now pursued in British Columbia.

In Appendix No. 5 (page 194), following the report of the Inspector of Fisheries of British Columbia, will be found the views of the Fish Commissioner of New York State, Mr. Blackford, which fortifies the position taken by your department in carefully protecting the rich fisheries of that province from the dangers which already threaten those of Alaska and of Washington Territory.

In the same appendix will be found a full description of a new species of salmon, *Oncorhynchus Kamloops*, from the lakes of British Columbia.

WORLD'S COLUMBIAN EXPOSITION.

In July, 1891, a letter was received from Captain J. W. Collins, Chief of the Department of Fish and Fisheries of the World's Columbian Exposition, announcing the fact that a special "Department of Fish and Fisheries" had been created in connection with the Exhibition, and asking that Canadian fisheries interests be represented thereat.

It was urged as a reason why the Canadian fisheries should be well represented, "that it would be of commercial advantage to citizens of Canada engaged in the "fisheries to send exhibits, in view of the fact that the United States is one of the "largest purchasers of such products." The letter also referred to the "gratification "the writer felt in studying the fine display, illustrative of Canadian fisheries, of "the great Intercolonial Fisheries Exhibition held at London in 1883."

This letter was duly acknowledged and circulars were prepared and distributed, calling the attention of those engaged in the fishing industries to the necessity of making arrangements for such a display of Canadian fish, fish products and fishing gear, as would do justice to the vast interests represented, offering to take charge of such exhibits at and during the Exhibition, and to provide free transport to Chicago and back.

The various inspectors of fisheries were instructed to meet and make arrangements for procuring specimens for our own Museum, as well as the commercial products for exhibition.

For various reasons no interest was taken in the work of preparing for exhibition specimens of the commercial products of the fisheries, by those engaged in the fishing business, and who under ordinary circumstances might be expected to reap the benefits of such a display of their products as would be afforded at such an exposition. With a very few exceptions therefore, nearly the whole of the commercial products secured for exhibition have had to be purchased by the department.

The contents of the Fisheries Museum at Ottawa have been added to and renovated and are now being packed in suitable cases for safe transport to Chicago.

Specimens and models of the best fishing boats used by our people, and of various other fishing appliances have been secured, so that in spite of the general apathy, a fairly good exhibit of Canadian fish, both in their natural shape, either stuffed or suspended in alcohol, or as prepared for market, together with the fish products, and the appliances used in fishing, and in curing the fish, will be made.

COMMISSIONER OF FISHERIES.

On the 15th March, 1892, a Bill was introduced in Parliament recommending that for purposes of efficiency and economy, the Department of Fisheries, which was created in 1884, be abolished, and that both departments be reunited under one deputy head. This Bill was adopted.

On 17th September, 1892, a report to Council from the Minister of Marine and Fisheries recommended the appointment of an officer, with scientific attainments, possessing skill in marine biology, who could act for the Fisheries branch in the same manner as nautical advisers do for the Marine branch of the department. This report was approved, and on the 1st October, 1892, Mr. Edward Ernest Prince, B.A., F.L.S., &c., of St. Andrew's Marine Laboratory, Scotland, Professor of Zoology in St. Mungo's College, Glasgow, was appointed Commissioner and General Inspector of Fisheries for Canada, at a salary of $2,000 per annum.

Professor Prince, it is expected, will be able shortly to assume his duties in such connection.

FISH-BREEDING.

Only a partial account of fish-breeding operations can as yet be given in the present annual report for 1892, as the larger proportion of the work for the year cannot be prepared until its final completion for the season not yet ended. Only the output of fry of various kinds from the several hatcheries which were bred from the eggs laid down in the autumn of 1891 can be embodied in this preliminary report.

A full and complete account of all proceedings at the several hatcheries cannot be compiled at the present time, as a large proportion of the usual work, consisting of capturing parent fish, collecting, impregnating and laying down of eggs is necessarily performed at a later period and the reports of the several officers in charge of the hatcheries as to details, could not be obtained in time to be included in this advanced annual report of the Marine and Fisheries for 1892.

The regular annual report on Fish-breeding by the Superintendent and of the several officers in charge of hatcheries, giving full details of all work for the year at the thirteen working establishments in the Dominion, will form part of the supplementary report of the department to be issued hereafter. The following details of the work available at the present, can only comprise the numbers and species of fry of various kinds that were hatched and turned out of the several hatcheries in the earlier spring months of this year. The names and locations of the several institutions will be shown from which one hundred and thirty-four millions nine hundred and eight thousand fry (134,908,000) were distributd and divided as follows:—

Salmon, Atlantic "Salar"	5,449,000
do Pacific "Nerka"	6,000,000
Salmon trout, Great Lakes "Naymacush"	4,799,000
Speckled trout, streams, "Fontinalis"	300,000
Whitefish, Great Lakes, "Corigoni"	54,860,000
Lobster fry, "Homarus"	63,500,000
Total	134,908,000

The distribution of the fry was made from the several hatcheries as follows:—

1. Fraser River, B.C.	6,000,000	salmon.
2. Sydney, N.S.	690,000	do
3. Bedford, N.S.	520,000	do
do	300,000	salmon trout.
do	1,800,000	whitefish.
4. St. John River, N.B.	100,000	salmon.
do	1,000,000	salmon trout.
do	1,650,000	whitefish.
5. Dunk River, P.E.I.	Not in operation.	
6. Miramichi, N.B.	1,310,000	salmon.
7. Restigouche, P.Q.	1,240,000	do
8. Gaspé, P.Q.	965,000	do
9. Tadoussac, P.Q.	624,000	do
10. Magog, P.Q.	1,200,000	salmon trout.
do	1,500,000	whitefish.
11. Newcastle, Ont.	2,000,000	do
do	1,300,000	salmon trout.
do	300,000	speckled trout.
12. Sandwich, Ont	44,000,000	whitefish.
13. Ottawa, Ont.	3,910,000	do
do	999,000	salmon trout.
14. Pictou, N.S.	63,500,000	lobsters.
Total	134,908,000	

GENERAL REMARKS ON FISH-CULTURE.

It may be safely stated that the restocking of the depleted waters by means of artificial fish-culture is receiving increased attention from the Federal as well as from the local governments of the neighbouring Republic. The subject was first brought to the attention of the Congress of that country in 1872 by the American Fish-Culturists' Association. The Commission then appointed took immediate steps to inaugurate this important work, the development of which, it is claimed, has become the principal agency to the maintenance of the valuable fishing industry. The first experiments were on shad, salmon and whitefish. In recent years, while the maritime States have been hatching sea-fish, the inland States, more particularly those bordering the great international lakes, have been directing their attention to the improvement of trout, whitefish, carp, &c. Between 1880 and 1885, the United States Fish Commission are reported to have distributed in the waters of the Great Lakes on their side of the boundary line two hundred and thirty-three million fry, Lakes Michigan and Huron receiving more than half of that quantity.

The general interest manifested in the progressive methods now obtaining in the science of fish-culture are fully evidenced by the adoption of improved fish-cars, fitted up with the latest appliances to facilitate the distribution of fry, not only in a more efficient manner, but at considerably less expenditure. It is reported that these fish-cars will be transported over the State railways free of charge.

Touching this subject, the following observations from *Harper's Weekly* deal with the value of fish-culture, etc.:—

"Results of fish-culture never are immediate. Just as cattle take time to rear, so do fish. Streams have to be constantly restocked in order to keep up the maximum of supply. With the anadromous fish some years must elapse before they return. Accidents we know nothing at all about may destroy all those fish put in a stream in 1882, and so no results follow in 1886; but those of 1883 may escape, and give ample returns in 1887. Because there has been a failure for one or more seasons, that is no reason why fresh attempts should not be made. There must be, if everything has been studied, final good results. It was believed that the Hudson River never could be made to produce salmon. It has been conclusively shown that salmon do thrive in its waters. What fish-culture does is not to help nature, as far as the individual goes, but to prevent general losses. If all the eggs the cod produces were to be hatched by a natural process, and escape destruction, and the fish mature, the sea would be thick with cod. There seems, however, to be a natural law that the greater the number of progeny, the more the chances of their loss. Fish-culture, then, taking the eggs of a fish, hatches out more fish than would occur under natural circumstances. The enemies of fish eggs are innumerable, and enormous numbers must be devoured by the fish and the birds. Eggs must be stranded or broken, and so lost. When, under natural circumstances, the fish are born, then they stand the same chance as artificially hatched fish, when both are put in the water. But there is this advantage, that we can select the exact point where we are to put in our fish, and we will try and place them where they are least exposed to danger. The advantages to be derived from fish-culture not of a special but general character, it is to be trusted, have been already understood. The older methods of establishing permanent hatcheries look as if, save under exceptional circumstances, they are to make place for movable ones. Where the eggs of any fish can be taken in greatest quantity and at the least expense, there an improvised hatchery can be

established at little cost. It may answer its purpose for a season, and be thought not available for the next. Simple and inexpensive as it all is now, it has taken years of experience to bring it all down to its present efficiency. With our wide extent of country and limitless waterways—new sections always requiring the attention of the Fish Commissioner—those in field service have few moments of rest."

The growing importance of fish-culture in the United States is indicated by the number of staff employed by their Commission of Fish and Fisheries in this branch of the institution alone. Reference to Appendix No. 7, viz. (a full list of employees of the said Commission at Washington, D.C.), will show that the fish-culture staff alone numbers twenty-two.

PROVINCIAL CO-OPERATION.

Not only the individual States co-operate with their Federal Government across the boundary, but the provinces of the Dominion seem to look favourably upon fish-breeding as one of the great factors in the protection of fisheries. The report of the Ontario Commission upon Game and Fish was not completed without advocating the usefulness of artificial fish-culture as a means of preserving the food fish supply, if not restoring it to its primitive abundance. The Commission says:—

"Although pond-culture may prove a remedy for a deficient supply of food fish in places distant from natural sources, and although it may also greatly improve the yield of small natural lakes, yet the only efficient method for preventing the exhaustion of the food supply from our inland waters is fish-breeding on a large scale commensurate with the rate of artificial depletion due to the fisheries."

Then the article goes on to compare the earliest experiments in America in this science by Mr. Wilmot, now superintendent, with the improved methods of the present, and how the primitive hatching apparatus of 1867 has been supplanted by improved glass automatic incubators, etc.

After quoting from the last annual report of Canada, the large output of fry, the article concludes as follows:—

"Report, amply show that these operations are already meeting with their reward and indicate that a similar policy pursued by the Ontario Government with regard to the smaller inland waters, would be followed by a rapid improvement of these as valuable sources of food."

The Commission, in their concluding remarks state, that the establishment of a Provincial Fish-Hatchery, is one of the most easily arranged of the measures that could be adopted to counteract the decline in the yield which seems inevitable.

AUTHORITIES ON FISH-CULTURE.

While it is noted that Canada took the lead in giving governmental sanction to fish-culture in America, the following opinions from well-known authorities of other countries are also of interest:—

Professor Huxley, formerly Inspector of Fisheries for Great Britain, said:—

"He did not take a very rosy view of protection, pure and simple, for sea fisheries, but perhaps he was all the more inclined to attach special value to thoroughly

well-considered and scientific fish-culture. He was inclined to think it was in this direction we must look for the ultimate preservation of our fisheries."

The late Professor Buckland, a former Inspector of Fisheries for Great Britain, said:—

"It is most desirable that public attention should be directed quite as much to the cultivation of the waters, as it has been hitherto to the cultivation of the land; aquaculture is quite as important as agriculture."

The late Professor Baird, head of the Federal Fisheries Commission of the United States, said in his reports to Congress:—

"The remedies to be applied to recover from the lamentable condition of the American fisheries are twofold: one consists in the enactment and enforcement of legislation, protecting what we have, and allowing natural agencies to play their part in the recovery. The other consists in the application of the artificial propagation of fish; either alone, in some instances will answer a very good purpose; the two combined constitute an alliance which places at our command the means of recovery of our lost ground to a degree, which, but for the experience of the last ten years, would hardly be credible." * * * * "It is through artificial propagation that the restoration of certain species of fish to their former places of abode, and the introduction of fish to waters where they were before unknown, is to be accomplished."

Professor Baird furthermore reported to Congress thus:—

"A patient whose constitution has been undermined by disease of long standing is unreasonable in expecting good results and a radical cure after a short application of approved remedies; yet he and his friends may be disappointed, if the recuperation from the excess of lesions of many years is not manifest in as many days. In reality the reverse is rather the rule, the time of recovery being more frequently much longer than that of the morbific influences." * * *

"We are, however, clearly entitled to maintain, in view of the experience of foreign countries and our own, that no reasonable anticipation in this respect will be disappointed; and that the proper measures of legislation and of artificial propagation will exhibit a marked result long before the end of the present generation."

Professor Brown Good, of the United States Fish Commission, thus speaks:—

"Rivers may be quickly emptied of their anadromous fishes—salmon, shad and alewives—by over-fishing in the spawning season, as well as by dams which cut off the fish from spawning grounds, examples of which are to be found in great numbers. Almost any piece of water, be it bay or sound, or a shoal at sea, may be over-fished to such a degree that fishing becomes unprofitable."

"The proper function of public fish-culture, therefore, is the stocking of the public waters with fish in which no individual right of property is claimed; and it is being done in our rivers with salmon, shad and alewives, and in our lakes with whitefish."

"Public fish-culture is only useful when conducted upon a gigantic scale—its statistical tables must be footed up in tens of millions: to count young fish by the thousand is the work of the private propagator. The prosperity and wealth of the fisheries of the present day are entirely under the control of the fish-culturist to sustain or to destroy, and capable of immense extensions."

"There had been a tendency on the part of some persons to depreciate what had been done in fish-culture, not only in Europe, but in the United States and in Canada. In the United States and Canada it has been a decided success, and was so recognized by every intelligent person.

"It was not likely that the American Congress would keep on making annual appropriations (amounting to millions of dollars), if they were not satisfied that it was not only a success from a scientific as well as commercial standpoint. He would not proceed with a multiplicity of examples, but would refer to the fact that the fish

in Lake Erie where the United States and Canada had established hatcheries, had been increased, and the supply immensely improved. Shad which some years ago were selling for $1 a pair, and beyond the reach of the poor, were to be bought now at 25 cents a pair, which was entirely the result of fish-culture.

"It seemed that the Canadian Department of Marine and Fisheries was one of the most valuable organizations in the world. He looked with great admiration upon the great progress Canada has made in fish-culture during the past number of years."

The Commissioners of Fisheries for the State of New York conclude their last report as follows:—

"No investment the State can possibly make can be of greater importance or result in more benefit, than the money spent for the artificial propagation of fish. Whatever cheapens the food of the people in this day, when wages tend to the minimum and all so near the cost of living, is to be desired, and the small amount expended each year for the artificial propagation of food fishes, is returned to the people of the State a hundredfold.

The Commissioners of Fisheries for the State of Pennsylvania, in their last report, say:—

"The people realize that fish propagation is no longer an experiment; hundreds of depleted waters now restored to good condition attest the success of restocking. The increase in the catch of shad in the Susquehannah and Delaware Rivers bears witness to the beneficial results of artificial propagation, and indicate a future supply that will cheapen the price to all.

"In Lake Erie a wonderful increase in the catch of whitefish has taken place, where in 1885 the supply was so nearly exhausted that the fishermen most largely engaged hesitated to embark in an enterprise that promised but profitless returns. Now the yield of whitefish in Lake Erie was greater than the catch of any season for the past twenty years, and larger than the combined catch of all the other Great Lakes, and has brought to the city of Erie alone a return of over $300,000. This result is directly traceable to the great plants of fry from the hatcheries. The catch in 1886 was 61,500 lbs.; in 1888, 2,200,000 lbs."

Colonel Macdonald, United States Commissioner of Fisheries, in his report to the Senate, January, 1891, says:—

"The result of the co-operative fish-culture work in Lake Erie, by the Canadian, State, and United States Fish Commissioners, has been not only to arrest the alarming decline that was in progress, but to determine a marked increase in the catch of fish in those waters in which fish-cultural work has been carried on. The marked contrast between the present conditions of the fisheries of Lake Erie and Lake Ontario sharply defines and emphasizes the necessity of artificial propagation as a means of maintaining and improving our commercial fisheries, and of creating such in waters where they have before existed. We cannot afford to neglect so important an economic resource, one which gives such substantial and valuable returns for moderate expenditure. The regeneration of the fisheries must be accomplished through fish-cultural work systematically and persistently pursued. A station should be established on the shores of Lake Ontario. The hatchery must be commodious, providing for the hatching of 100,000,000 of whitefish and 1,000,000 of salmon ova, together with all the necessary requirements to make it perfect. The cost of this institution will not be less than $20,000, exclusive of site and water. The maintenance will cost $9,000 per annum."

From Canadians.

The following certificates from prominent persons and fishermen in Canada are given in evidence of the success of artificial fish-breeding in some of the Canadian waters:—

From Miramichi River, New Brunswick:—

Hon. Michael Adams writes:—"I am a firm believer in artificial fish hatching. I look for great results from the young fry which have been planted in our streams if they are properly protected, and I sincerely believe if it had not been for the hatchery here the salmon would now be nearly exterminated from the Miramichi. It was a blessing that the fish hatchery was established; if it had not been few salmon would be found in our rivers." Again he says:—"Salmon were plentiful this season (1890). If it were not for the benefit from the fish hatchery, the salmon would now be nearly exterminated in our streams."

Jared Tozer, fish dealer, writes:—

"I believe that the fish hatchery is a great benefit to our rivers, and think that if it had not been for the fry planted from it, the supply of fish would now be nearly exhausted. My catch of fish has been steadily on the increase for the last three years."

John Ferguson, Esq., says:—

"The catch of fish was better this season than for any season during the past twelve or fifteen years. I believe that artificial fish hatching is a great benefit to our streams in keeping up the supply of salmon."

James Lawler, fisherman, says:—

"I have taken more salmon this year than for any season during the past five years. I believe that the hatchery is a great help to keep up the supply."

John McCalm, Esq., says:—

"My nets have taken more salmon this season (1888) for any during the past five years.....This is, I think, greatly due to the benefits derived from artificial breeding, without which our supply of salmon would run short in a very few years." In 1890, he says:—"Without the assistance received from the successful working of the salmon hatchery which the Government has put in our river, salmon fishing would have been a total failure long before this time, instead of which we find the industry as remunerative as it was twenty years ago. Artificial breeding of salmon is the only means of supplying the demand that is made upon those rivers every season."

Patrick Gillis, fisherman, says:—

"I have fished a set of nets for the past ten years, and I am of opinion that salmon have been on the increase for the past six years. It is my opinion that artificial breeding is an almost incalculable benefit to our rivers in keeping up the supply." Again in 1890, he says:—"Artificial fish-breeding is beyond a doubt the means of keeping up the supply. The catch of salmon here is good each season."

John Betts, fish dealer and shipper, says:—

"I am a firm believer in the method of breeding fish by artificial means. I have been in the salmon fishery business for quite a number of years, and I maintain through my experience that artificial breeding of salmon has been the means of sustaining the life in our fishing industry on the Miramichi,"

RESTIGOUCHE RIVER.

William Pratt, owner of a fishery, says:—

"I have been engaged here in the salmon fishing for twenty years, and I believe, notwithstanding the anglers and the great increase of nets in the bay and on

the coast of late years, the salmon are more plentiful than they were years ago—the catch each year is more uniform. I certainly believe these results are very largely due to the placing of the millions of fry from the hatchery in the river.

James H. Moore, a large property owner, says:—

"My opinion is that owing to the increased number of nets on the coast and estuary since 1872, and the increase of anglers since 1880, were it not for the hatchery the salmon would be nearly extinct now, and the great increase of nets referred to plainly shows that there must have been a corresponding increase of the fish. I own a frontage on the river. Formerly with a net I never took over four or five barrels of salmon, about $50. Since 1880 I have only fished with rod, and lease my fishery to the anglers for $200 per annum. I attribute these extra benefits to the Restigouche Hatchery."

Nathaniel Moore, owner of property on the river, says:—

"I have lived on the Restigouche forty years. I lease my privilege of eighty rods to anglers for $100 per annum. It is only of late years when the salmon began to increase that the anglers would lease it. There are ten fish in the river now where there was but one twenty years ago. The fishery has enhanced in value 500 per cent. I have no doubt but what the hatchery combined with protection has brought this about."

Robert D. Gerrard says:—

"I am owner of a net fishery in tidal waters, and also a guardian on the river. There was a very large run of salmon last year (1889) and the catch of salmon has increased accordingly. In going over my beat I believe there are ten fish now where there was only one years ago. Smolts are very plentiful about the tide head. From what I have seen and read about artificial fish-breeding, I believe the hatchery is justly entitled to the credit of a large share of the healthy condition of the salmon fisheries on the Restigouche and Bay des Chaleurs."

Alex. Mowat, fishery officer, in his report says:—

"Lumbermen, fishermen, guardians, and all others acknowledge they never saw so many salmon in the Restigouche River as there are this season. The head guardians of the river reported to me that every pool at the head of the river was filled with salmon. The price of property on the river has risen enormously during the past season. Some five miles on one side of the river, thirty-six miles up, brought $35,000 cash down. Half a mile on one side of the stream was sold for $18,000. Eighty rods privilege near Metapedia brought $2,000. Forty rods also brought $1,800. Sixty rods near Metapedia brought $2,500. A few years ago many of these places could neither be sold or leased. There was no fishing on them then, but since, the river has become one continuous pool, and every inch of water is largely sought for. The hatchery and the many millions of young fish planted from it annually for many years past, must be credited certainly with a fair share in bringing about this gratifying state of affairs on the river."

The following certificates as to the success at Canadian hatcheries are again brought forward:—

Board of Trade, New Westminster, B.C.:—

"Success so great want another hatchery."

Kirkland Canning Company, B.C.:—

"Asks present nursery be kept and others built."

W. H. Viance, New Westminster, B.C.:—

"Fished for 30 years; caught more last season than before. Convinced this is the product of the hatchery."

E. A. Wadhams, canners, B.C.:—

"Hatchery of great benefit. Run of fish not yet over, but more fish canned now than ever put up in the whole province in any one year. Stopping artificial work would be a mistake which the province cannot afford."

Thos. E. Ladner, Canoe Pass, B.C. :—

"Firm opinion the big run this season is to be attributed to output from hatchery. Wants more hatcheries. The great catch this season cannot be ascribed to anything outside the hatchery."

Laidlaw & Co., Delhi Co., B.C. :—

"The best run of salmon this year we ever saw in the river. This year the hatchery has shown its good work, and has produced a great source of revenue to the country at large."

E. Drysdale (packer), Canoe Pass, B.C. :—

"The results this year prove that the hatchery has increased the run of fish enormously."

N. M. English & Cutler, B.C. :—

"By all means continue salmon hatching. Just showing the present good results."

J. C. Laidlaw, New Westminster, B.C. :—

"It would be madness to stop salmon breeding."

Peter Burrell (packer), Anninsalls, B.C. :—

"Wants other canners to associate and get department to build hatchery in his locality. Confirmed in belief that it is a wise step and in the interest of the fisheries."

B. T. Mann, Bon Accord Cannery :—

"Favours continuance of hatcheries."

Findlay, Durham & Brodie, (canners), Victoria, B.C. :—

"Have always considered hatcheries beneficial to maintain supplies of salmon. My opinion is strengthened by all fishermen."

R. D. Hume, San Francisco :—

"Pack on Rouge River, 1877, 3,500 cases; 1878, about 14,000 cases. That season put out 350,000 fry, and four years after packed 15,000 cases spring salmon."

SUCCESSES OF MIRAMICHI HATCHERY, NEW BRUNSWICK.

Jared Tozer (large fisherman) says :—

"Salmon more plentiful than for years past, which he attributes to the hatchery."

John McColm (fisherman) says :—

"My net caught more than for five years past. Salmon show no signs of decrease (as some say) for the past six years. This is due to the hatchery. Without it the supply would soon fail."

William Pratt, Campobello, N.B., says :—

"Have fished for 20 years, and notwithstanding many anglers and a great increase of nets, salmon are more plentiful, the catch is more regular. This is certainly due to the hatchery."

Melvin Adams (net fisherman) says :—

"General beneficial results from hatchery. Want greatly extended operations."

Matthew Moore, Ristigouche River, says :—

"Have resided here 40 years; own 80 rods one side of river and leased it last year for $100. There are ten fish now for one twenty years ago, and the fishery has enhanced in value 500 per cent. Artificial hatching and protection have brought this result."

J. H. Morris, Metapedia, says :—

"With the increased number of nets since 1872, and the increase of anglers since 1880, that only for the hatchery the salmon would be nearly extinct. Owns 480 rods privilege on river and formerly set a net, and never took over four barrels a year, but since 1880 I only fish with my rod and leased my frontage to anglers at an average of $200 per annum."

LOBSTER HATCHING.

The artificial culture of lobsters is no longer an experiment but an established success. Mr. Ogden, the officer in charge of the Bay View hatchery in Pictou County, N.S., states, that after making necessary improvements, he secured his first supply of eggs on the 19th May, and continued to do so on every favourable day following until the 6th July. About 65,000,000 of eggs were collected from one cannery, less than a hundred yards from the hatchery. The first young lobsters hatched out on the 13th June, and constant attention was given day and night to the eggs and fry till restored to the sea. The distribution of the young crustaceans covered an area of sixty miles, that is about one million to the mile, extending from Arisaig, county of Antigonish, to Pugwash, county of Cumberland. Special attention was paid to selecting proper rocky bottoms at a certain distance from the shore when distributing the young lobsters. These were poured out from the deck of a low steamer, with a dipper from a height not exceeding five feet, or let through a hose about eight feet long trailing in the water. It is hoped most of these young lobsters will attain maturity, as when they reach the bottom, the rocks afford them shelter from their enemies. Very few eggs were lost.

The officer in charge of the hatchery states that a young lobster when hatched measures about one quarter of an inch in length, at one year old it measures two inches and grows at the rate of about two inches every year; so that a lobster of seven and a half or eight inches in length would be four years old.

OYSTER CULTURE.

Previous reports from this department relate the measures adopted, and the work done to promote and preserve the oyster fishery. These reports show that if the oyster fishery is to be saved from extinction, efficient measures would have to be adopted looking to less destructive modes of carrying it. The reasons for this depleted state of the oyster fishery are so fully set forth in these reports, that it is unnecessary to recur to them again here.

In 1885, the close season was extended by fifteen days, making it read from 1st June to 15th September, in each year. This was the only regulation bearing upon the oyster fishery of the Dominion, and it was manifestly inadequate to ensure necessary protection to such a valuable industry. The fishery had been, and could still be, relentlessly pursued by persons seeing fit to take oysters at any place and in any manner they pleased, wholly regardless of the size taken and the injury done to the beds by leaving a quantity of small oyster shells and mud on the ice, to drop on them in the spring of the year. These facts were brought to the Government's attention by the Minister of Marine and Fisheries in a report dated 1st March, 1890, and a minute of Council was subsequently adopted recommending the adoption of the following measures :—

1. No oyster fishing to be allowed, except under leases or licenses from the Department of Marine and Fisheries.

2. The close season to be from 1st June to 15th September.

3. No oysters less than two inches broad or less than three inches in length, to be taken.

4. Dipping for mussel-mud to be prohibited within a distance of 200 feet from any live oyster-bed, and then only at such places as may be prescribed by a fishery officer.

5. The above regulations not to take effect till surveys of the oyster-beds were made.

In order to facilitate the applications of persons desirous of obtaining licenses for the cultivation of oyster-beds, regulations were adopted to guide surveyors in preparing plans and descriptions for application for oyster fishery licenses. These are supplied to all applicants free of charge. It was at the same time decided that the licensing of the grounds would be made on the following basis :—

1. License fee, $1 per acre, calculated upon the draft at low water, as shown on the approved plan of survey.

2. A maximum limit of areas.

Inspection in New Brunswick.

An appropriation of $5,000 having been made by Parliament, steps were immediately taken to proceed with the survey and planting of public beds.

After some correspondence with oyster experts in England and France, the Messrs. Frederic and Ernest Kemp, who had had considerable experience in connection with the Whitstable Oyster Company (the largest and most important and influential corporation of the kind in Great Britain), were engaged to come to Canada and make a preliminary inspection of oyster-beds. These gentlemen sailed on the 2nd May, reaching Halifax on the 5th June following. They immediately proceeded to Shediac Harbour and began examining the beds there. A careful inspection of the whole of Shediac Bay convinced them that it would be a suitable place for natural oyster culture. They found the beds in a most deplorable condition through neglect, want of proper care and attention and the ruthless manner in which the mussel-mud diggers had cut them all to pieces, leaving a lot of disjointed patches with an immense accumulation of soft mud around the beds. It was four days before they could meet with a piece of ground large enough to cultivate oysters upon. The best area was found abreast of Mr. Harrington's house; it could be very much enlarged by using proper means, there being good ground all round and a sufficient depth of water. Other beds were also found which can be connected by time, care and labour. The northern portion of the bay was found to be entirely useless for oyster-culture, the bottom consisting of long grass and very soft mud, so much so, that the grounds known as the Poirier beds are nearly silted up. To make them successful, the Shediac beds must be entirely and thoroughly cleansed by dredges, such as are employed on the oyster-beds in England. The rake at present used in Canada should be discarded. It is very destructive to the oyster brood and grounds. There would be no advantage in planting oysters upon such beds in such a dirty state, during the summer season; but with proper care and attention, the experts do not see why these grounds could not be made to yield a never-failing source of supply, as their situation is so well adapted for oyster-culture. They conclude by recommending that the limits set apart by Order-in-Council for the natural and

artificial propagation of oysters in Shediac Harbour be changed; the northern portion thereof being of no value whatever for the above purpose. This recommendation has been carried out.

From Shediac the Messrs. Kemp went to Buctouche, where they found the whole of the oyster-beds, with the exception of the Dixon bed, a mass of disjointed patches, caused by mussel-mud digging. Up the river, beyond the railway bridge, the beds were in the same condition. The patches generally showed a very healthy condition, with the exception of those where fishermen had been in the habit of raking oysters through the ice. No grounds could be found having sufficient depth of water to warrant the cultivation of oysters in the river and bay. The bed off Dixon's Point was in a dirty condition, showing by the appearance of the soil that it had been long disused. Seven hauls were brought up, yielding eight very large, healthy oysters and a dredge full of old shells. To clear this ground would prove a matter of very little labour, and oyster brood would thrive therein. In the bay and river, above and below the railway bridge, patches of ground were found teeming with live oyster brood, growing very fast and plentiful. A much greater proportion of oyster brood was found than the full-grown oysters; one haul brought 10 oysters and 54 brood, another 40 brood and no oysters, and several hauls in like proportion.

Cocagne Harbour was found to be in about the same condition as Buctouche; oyster brood being much more plentiful than the full-grown oyster. No ground was found available for planting during the short visit of the experts.

At Richibucto, the experts report things in the same condition as in the two above-named places, with the addition of a much larger quantity of oyster brood over every patch of ground dredged. This brood was abundant and in the healthiest condition. No mortality whatever was noticed; everything brought up by the dredge proved to be oyster brood. The patches were small, owing to the operations of the mussel-mud diggers, the surroundings being composed of eel grass and soft mud. Were it possible to form ground sufficiently hard to receive the spat, there could, from Bay Cove to Kingston Bridge, be saved a sufficient quantity of oyster brood to supply the whole of England's oyster-beds. On every small patch dredged, the hauls of oyster brood were as follows:—163, 105, 195 and 108. Coming to a more extensive patch, the experts were able to get a larger quantity. One haul brought 811, the greatest portion of which consisted of undersized oysters. The oysters above Kingston Bridge are said to be inferior in quality, but there is reason to believe that if oyster brood were transplanted young on other beds suitable for oysters, they would develop into good marketable oysters. Very few oysters were found in the N. W. river; the grounds appeared to be very old, the mussel-mud diggers having cut the beds all to pieces. The only ground found suitable for planting oysters on was between Indian Island and the mainland. Some portion of this was comparatively clean, but the greatest part would require to be cleaned before it could be planted, there being a substantial bottom.

Throughout the whole of their inspection the experts report that they did not find a single marine enemy to the oyster, which is in itself a remarkable fact. The cause of the depletion of beds can, however, be accounted for in many ways; destruction going on at a wholesale rate. On the arrival of the experts at Cocagne, there were found as many as twelve boats with men in them raking for oysters

during the close season. Three of these were seized, but the others managed to escape. While steaming up Buctouche Harbour, a number of boats were noticed raking: the men flew in all directions, leaving their rakes in the water.

Another cause of destruction is the fishing for oysters through the ice. While dredging, the experts came upon a piece of ground consisting of a high bank. When the dredge was hauled, it was found that instead of life and growth as before, the whole contents of the dredge consisted of bleached shells, with no signs of life on them. There had been brood, but it was dead, and this unmistakeably showed that something was wrong. Subsequent information elicited the fact that this was the result of raking through the ice. Consequently, all brood exposed at such a time of the year, means inevitable destruction; also, when the ice thaws, down goes the refuse, making a high bank. The mussel-mud digger entirely destroys the oyster-beds wherever he works. The ground simply becomes irreclaimable, consequently, the Canadian oyster-beds are becoming more contracted every year. Oysters are, moreover, taken all the year round, regardless of size or close season.

Inspection in Prince Edward Island.

From New Brunswick, the Messrs. Kemp went to Prince Edward Island, on the 30th July, beginning their work by an examination of the oyster-beds in Bedeque Bay. They report that the greater portion of this bay consists of mud and long grass, and that nearly the whole of the beds are entirely destroyed by mussel-mud diggers. Off Oyster Point, there is a portion of ground where the bottom is hard, but the grass and weeds are so thick that it is impossible to know what the soil is like. Apart from this, there appears to be only one available spot for the cultivation of oysters situated off the north shore towards Wilmot's Cove. Some part of this ground was found to be clean, but the greater portion was covered with weeds and shorter grass. The bottom was firm, the oysters brought up were of very fine quality; three hauls yielded 22 oysters and 84 brood in a very healthy condition, the brood showing rapid growth. The grass could, with very little labour, be cleared, and the grounds made suitable for planting. This portion of the bay would be safe against mud-diggers, as they cannot find sufficient depth of shells to answer their purpose. These grounds were staked off.

Richmond Bay was found to be nothing short of a gold mine. Some of the beds are extensive, comprising several acres, and the stock compares well with that of cultivated grounds. Its resources appear to be enormous; the beds being well stocked with oysters and oyster brood which was found to be of good quality and in healthy condition, making a rapid growth. In every part explored, where soil could be found, there were oysters and oyster brood. In no single instance were death or a marine enemy to the oyster met with; a most remarkable coincidence over such a large area of ground. A great number of hauls were made over different parts of the bay. Dead weeds and mud were only noted from Oyster Cove, including Indian River, to Rayner's Creek. The experts were informed that they would not find any beds there, as they had all been cut to pieces by mussel-mud diggers, although at one time, these were the best in the bay, as the fishermen could always work upon them on account of their being sheltered from strong winds. There were at least four miles of the beds destroyed. Several hauls were made off Mill's Point, McNeil's Lock Shore, River Platt, Fraser's Cove, Narrow's

Lot 12, Squirrel Creek, Niggers Point, Joe Benward's Point, Sally Francis, Cooper's, Bideford River, Schooners Creek, Barclay's Creek, Front River, Bird Island and Ennore River with successful results. From the Bar to Bryant's Point, nothing but weeds and mud were found, although it is stated that originally the bed was half a mile in length, but it has been completely destroyed by mussel-mud diggers.

The experts conclude their report of inspection in Prince Edward Island by remarking that every oyster taken up by a fisherman is brought ashore regardless of size. These are sold to merchants, who select the marketable ones, and the undersized oysters are thrown away as refuse. Such a disastrous system, they claim, should be put a stop to and no oysters under the size of three inches allowed to be taken. By this means next year's stock would be saved and the beds preserved. From Richmond Bay the experts proceeded to Charlottetown, and inspected North River, West River, Vernon River and East River. In North River they saw very little soil or oyster ground, but were informed there were oysters above the bridge, where they could not go up with the steam launch. In West River, at Long Creek, abundance of oyster brood in a healthy condition was noticed, growing very fast; the beds extending nearly half a mile in length. In Vernon River three hauls of the dredge brought up 30 oysters and 614 brood. The experts were informed that Orwell Cove and the grounds in Orwell Bay would compare favourably with those already dredged in Vernon River. In East River the beds were completely covered with oyster brood of very fine shape and form different from the oysters found in other beds in this part of the Island. It was stated that a continuation of this brood could be found at every point from 10 to 15 miles along the river. The experts consider that persons who have leased oyster grounds for oyster-culture would do well to use this brood to re-stock them. As a rule, oyster brood picked upon an ebb dry ground are much hardier than those taken from deep water; and by removing them into deep water they would be secure from the heavy frosts which prevail in Canada. A large quantity of oyster brood was noticed; the fall of spat last year must have been enormous. The quality of some of these oysters is quite as good as those of Richmond Bay, many of them being long-shaped. No long oysters should be fished for market under four inches in length.

Taking everything into consideration, the experts consider there is no danger of Canadian oyster-beds becoming depleted if the laws of nature are observed, and the recommendations which they make carried out.

On completion of their labour in Prince Edward Island, it being found that the presence of Mr. Frederic Kemp was no longer required, he was permitted to return to England on the 10th September, and Mr. Ernest Kemp was subsequently engaged at $1,500 a year, for a period of three years, to continue the work. He was then directed to prepare the grounds in Shediac Harbour so as to make them fit for planting, which he did by removing the refuse and culch from the grounds and placing it alongside to fill up soft holes around the beds; the oysters and brood which are caught being placed on other beds not yet touched. He will be engaged at this work until the freezing of the harbour compels him to give it up.

In addition to the above, Mr. Kemp was directed to inspect Tracadie Harbour, in Antigonish Co., N.S., and select areas for the purpose of restocking oyster-beds in the above-named waters.

A list of application for areas to cultivate oysters will be found at Appendix No. 6.

Conclusion.

The above-mentioned material constitutes the report of the Fisheries branch. In order to lay before Parliament, earlier than usual, an account of the year's operations, it has been impossible to deal more fully with each division of this work, as the fishing season covers the calendar year and consequently the reports of the outside staff have not yet been sent in.

Enough material is appended to show generally the work upon which the officers of this department have been engaged.

I have the honour to be, sir,
Your obedient servant,

WM. SMITH,
Deputy Minister of Marine and Fisheries.

FISHERIES.

The reports of the inspectors of fisheries and fishery officers throughout the Dominion, embracing the fishery statistics and other material which are compiled to the end of the calendar year, will form the subject of a supplementary report.

The present report which is published in advance contains some general information relative to the fisheries protection service, fish-breeding operations, the distribution of the fishing bounties, expenditure and receipts, &c., and other matters of general import.

EXPENDITURE AND RECEIPTS.

The total expenditure on account of fisheries, including civil government, for the fiscal year ended 30th June, 1892, amounts to $403,094.20, from appropriations of $465,145.60, leaving an unexpended balance of $62,051.40 which lapses into the Treasury, no portion of this sum having been brought down for expenditure during the current fiscal year. The total expenditure for the fiscal year 1890-91 amounted to $395,028.97, against $403,094.20 for 1891-92. This increased expenditure of $8,065.23 is more than accounted for, by the fact that a new steamer was in course of construction for the fisheries protection service during the year, and that the expenditure connected with Behring Sea matters is reckoned with the expenditure for 1891-92, whilst in 1890-91, no such expenditure was incurred.

The revenue, including receipts from licenses to United States fishing vessels, amounts to $62,785.89, as against $70,794.42 during the same period last year.

EXPENDITURE.

The subdivision of the expenditure is as follows:—

Service.	Expenditure	Vote.
	$ cts.	$ cts.
Fisheries	72,124 28	103,000 00
Fish-breeding	43,957 74	55,000 00
Fisheries protection service	93,397 40	100,513 05
Fishing bounty	156,892 25	160,000 00
Miscellaneous expenditure	17,449 06	24,707 55
Civil Government—Salaries	15,501 77	17,925 00
Contingencies	3,771 70	4,000 00
Total	403,094 20	465,145 60

The details are printed in the Auditor General's report under the proper heading.

In addition to the above, the following summary shows the salaries and disbursements of fishery officers in the several provinces, together with the expenses for maintenance of the different fish-breeding establishments throughout the Dominion:—

Service.	Expenditure	Vote.
	$ cts.	$ cts
Fisheries, Ontario	15,155 83	23,000 00
do Quebec	10,917 36	15,000 00
do New Brunswick	15,707 98	23,000 00
do Nova Scotia	18,755 86	23,000 00
do Prince Edward Island	1,835 65	4,000 00
do Manitoba	2,002 54	4,500 00
do North-west Territories	1,590 89	4,000 00
do British Columbia	6,158 17	6,500 00
Total	72,124 28	103,000 00
Fish-breeding, Newcastle hatchery	4,443 98	
do Sandwich do	4,837 39	
do Tadoussac do	2,685 78	
do Gaspé do	1,828 92	
do Magog do	825 29	
do Ristigouche do	3,001 95	
do Bedford do	3,171 94	
do Sydney do	2,239 04	
do Miramichi do	1,626 26	
do St. John Riv. do	2,678 72	
do Fraser River do	2,896 57	
do Bay View do	4,878 82	
Building hatchery at Tadoussac	2,981 75	
General account	5,861 33	
Total	43,957 74	55,000 00

This expenditure by provinces is subdivided as follows:—

EXPENDITURE.

Ontario.	$ cts.	$ ct
Salaries of officers	9,617 08	
Disbursements of officers	5,217 20	
Miscellaneous	321 55	
Total		15,155 8
Quebec.		
Salaries of officers	7,677 13	
Disbursements of officers	3,151 99	
Miscellaneous	88 24	
Total		10,917 3
New Brunswick.		
Salaries of officers	11,542 23	
Disbursements of officers	4,034 46	
Miscellaneous	131 29	
Total		15,707 9
Nova Scotia.		
Salaries of officers	12,884 55	
Disbursements of officers	5,574 75	
Miscellaneous	296 56	
Total		18,755 8

EXPENDITURE—*Concluded.*

	$ cts.	$ cts.
Prince Edward Island.		
Salaries of officers	1,439 00	
Disbursements of officers	379 25	
Miscellaneous	17 40	
Total		1,835 65
Manitoba.		
Salaries of officers	999 28	
Disbursements of officers	934 38	
Miscellaneous	68 88	
Total		2,002 54
North-west Territories.		
Salaries of officers	750 00	
Disbursements of officers	705 55	
Miscellaneous	135 34	
Total		1,590 89
British Columbia.		
Salaries of officers	3,870 82	
Disbursements of officers	758 53	
Miscellaneous	1,528 82	
Total		6,158 17
Grand Total		72,124 28
MISCELLANEOUS.		
Legal and incidental expenses	1,792 81	
Canadian fisheries exhibits and Ottawa hatchery	1,902 40	
Expenditure in connection with the distribution of fishing bounties	6,029 26	
Survey of oyster beds	887 47	
Issuing *modus vivendi* licenses	1,207 55	
Testing new mode of drying fish	310 16	
Printing *re* Behring Sea	2,162 63	
Expenses of Experts, Seal Fishery, Behring Sea	2,756 78	
Honorarium to British Columbia Commissioners	400 00	
Total		17,449 06
Grand Total		89,573 34

*The expenses of the Commission are charged to the vote for Miscellaneous British Columbia Fish-breeding and Legal and Incidental expenses.

FISH-BREEDING.

	$ cts.	$ cts
Newcastle Hatchery.		
Salaries	1,220 13	
Miscellaneous expenditure	3,223 85	
Total		4,443 98
Sandwich Hatchery.		
Salaries	900 00	
Miscellaneous expenditure	3,937 39	
Total		4,837 39
Tadoussac Hatchery.		
Salaries	1,002 00	
Miscellaneous expenditure	1,683 78	
Total		2,685 78
Gaspé Hatchery.		
Salaries	400 00	
Miscellaneous expenditure	1,428 92	
Total		1,828 92
Magog Hatchery.		
Salaries	600 00	
Miscellaneous expenditure	225 29	
Total		825 29
Ristigouche Hatchery.		
Salaries	1,030 00	
Miscellaneous expenditure	1,971 95	
Total		3,001 95
Bedford Hatchery.		
Salaries	1,300 00	
Miscellaneous expenditure	1,871 94	
Total		3,171 94
Sydney Hatchery.		
Salaries	860 00	
Miscellaneous expenditure	1,379 04	
Total		2,239 04
Miramichi Hatchery.		
Salaries	500 00	
Miscellaneous expenditure	1,126 26	
Total		1,626 26
St. John River Hatchery.		
Salaries	808 50	
Miscellaneous expenditure	1,870 22	
Total		2,678 72
Fraser River Hatchery.		
Salaries	374 94	
Miscellaneous expenditure	2,521 63	
Total		2,896 57

FISH-BRE .DING—*Concluded.*

	$ cts.	$ cts.
Bayview Hatchery.		
Salaries	250 00	
Miscellaneous expenditure	4,628 82	
Total		4,878 82
Building new hatchery at Tadoussac		2,981 75
General Account.		
Salaries	2,435 37	
Miscellaneous expenditure	3,425 96	
Total		5,861 33
Total, Fish-breeding		43,957 74

FISHERIES PROTECTION STEAMERS—1891-92.

	$ cts.	$ cts.
Steamer "Acadia."		
Wages of officers and men	7,849 29	
Provisions	2,108 18	
Fuel	1,394 36	
Repairs	2,967 72	
Miscellaneous expenditure	3,109 49	
Total		17,429 04
Steamer "La Canadienne."		
Wages of officers and men	7,385 54	
Provisions	2,145 89	
Fuel	1,115 64	
Repairs	1,255 51	
Miscellaneous expenditure	2,124 40	
Total		14,026 98
Steamer "Stanley."		
Wages of officers and men	3,271 05	
Provisions	1,670 21	
Fuel	1,444 73	
Repairs	935 23	
Miscellaneous expenditure	2,212 62	
Total		9,533 84
Steamer "Cruiser."		
Wages of officers and men	2,349 07	
Provisions	719 18	
Fuel	667 30	
Repairs	168 63	
Miscellaneous expenditure	132 01	
Total		4,036 19
Steamer "Dream."		
Wages of officers and men	1,198 40	
Provisions	402 50	
Fuel	336 57	
Charter	1,500 00	
Miscellaneous expenditure	158 79	
Total		3,596 26

FISHERIES PROTECTION STEAMERS—1891-92—*Continued.*

	$ cts.	$ cts.
Steamer "Constance."		
Wages of officers and men	1,094 50	
Provisions	431 37	
Fuel	373 85	
Repairs	60 43	
Balance of contract	20,410 00	
Miscellaneous expenditure	2,467 77	
Total		24,837 92
Steamer "Curlew."		
Paid on account of building steamer	30,000 00	
Miscellaneous expenditure	1,299 20	
Total		31,299 20
Steamer "St. Nicholas."		
Wages of officers and men	2,537 73	
Provisions	933 00	
Fuel	753 84	
Charter	2,000 00	
Miscellaneous expenditure	343 99	
Total		6,568 56
Steamer "Bayfield."		
Wages of officers and men	417 00	
Provisions	178 90	
Fuel	380 05	
Miscellaneous expenditure	52 77	
Total		1,028 72
Schooner "Vigilant."		
Wages of officers and men	4,009 07	
Provisions	1,019 29	
Fuel	61 00	
Repairs	47 85	
Miscellaneous expenditure	954 00	
Total		6,091 21
Schooner "Agnes Macdonald."		
Wages of officers and men	1,637 33	
Provisions	366 27	
Fuel	16 15	
Charter	2,137 50	
Miscellaneous expenditure	331 17	
Total		4,488 42
Schooner "Kingfisher."		
Wages of officers and men	462 06	
Provisions	323 67	
Charter	475 00	
Miscellaneous expenditure	192 16	
Total		1,452 89
Expenditure on account of building new steamer		88 52
General account, miscellaneous expenditure		6,652 91
Fisheries Intelligence Bureau		2,266 74
Total		133,397 40
LESS—Amount paid for steamer "Constance" by Customs Department		40,000 00
Net total		93,397 40

FISHERIES PROTECTION STEAMERS, &c.—*Concluded.*

Recapitulation.	$ cts.
Steamer "Acadia"	17,429 04
do "La Canadienne"	14,026 98
do "Stanley"	9,533 84
do "Cruiser"	4,036 19
do "Dream"	3,596 26
do "Constance"	24,837 92
do "Curlew"	31,299 20
do "St. Nicholas"	6,568 56
do "Bayfield"	1,028 72
Schooner "Vigilant"	6,091 21
do "Agnes Macdonald"	4,488 42
do "Kingfisher"	1,452 89
On account building steamer	88 52
General account	6,652 91
Fisheries Intelligence Bureau	2,266 74
Total	133,397 40
Less—Amount paid for steamer "Constance" by Customs Department	40,000 00
Net expenditure, Fisheries Protection Service	93,397 40

Statement of Fisheries Revenue paid to the credit of the Receiver General of Canada, for the Fiscal Year ended 30th June, 1892.

	$ cts.	$ cts.
Ontario—		
Rents, license fees and fines	26,708 00	
Quebec—		
Rents, license fees and fines	5,244 82	
Nova Scotia—		
Fishery licenses and fines	3,803 42	
New Brunswick—		
Rent, license fees and fines	6,634 83	
British Columbia—		
Rent, license fees and fines	8,192 48	
Manitoba and North-west Territories—		
Fishery licenses and fines	1,079 00	
Prince Edward Island—		
Fishery licenses and fines	166 00	
Proceeds of sale of Speckled Trout Fly	178 00	
		52,006 55
Less—Refunds		2,287 16
		49,719 39
Licenses to U. S. Fishing Vessels		13,066 50
Total		62,785 89

COMPARATIVE Statement of Expenditure and Revenue of the

	1884–85.		1885–86.		1886–87.		1887–
	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario.	17,135 98	11,914 37	17,900 74	15,917 62	19,534 01	15,063 57	19,860 52
Quebec	13,531 77	3,325 35	13,938 21	2,963 75	14,966 55	3,804 66	13,463 37
New Brunswick	14,892 87	4,650 16	15,719 36	4,078 10	16,944 87	4,417 52	20,533 20
Nova Scotia	17,503 45	2,616 28	17,852 33	2,166 53	18,092 21	1,585 28	18,308 02
Prince Edward Island	3,028 03	40 00	3,187 73	40 00	4,044 49	128 00	3,402 51
Manitoba and N. W. Ter	763 00	.....	1,920 73	.....	2,468 25	5 00	2,816 64
British Columbia	1,437 13	365 50	1,878 53	922 50	5,860 72	943 50	3,661 83
Fish-breeding and fishways	43,879 82	.....	44,038 80	.....	37,864 22	.....	41,082 04
Fisheries Protective Service	31,514 07	.....	37,613 30	.....	134,340 12	.....	77,102 98
Miscellaneous	9,529 44	.....	10,350 43	.....	11,327 77	.....	13,498 56
Totals	153,215 56	22,911 06	164,400 16	26,088 50	265,443 21	25,947 53	213,729 67
Fishing bounties	155,718 98	.....	161,597 39	.....	160,903 59	.....	163,757 92

Fisheries Department, from 1st July, 1884, to 30th June, 1892.

88.	1888-89.		1889-90.		1890-91.		1891-92.	
Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure.	Revenue.	Expenditure	Revenue.
$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
18,251 25	19,264 98	24,266 06	14,539 87	23,666 96	15,540 30	26,517 70	15,155 83	25,368 90
5,394 99	12,991 63	3,390 79	9,670 94	5,409 81	10,666 98	3,642 14	10,917 36	4,742 76
7,625 64	20,298 00	8,282 88	14,914 95	8,834 35	16,082 77	7,193 69	15,707 98	6,634 83
3,905 44	20,201 09	2,744 23	17,395 24	5,424 95	17,844 19	5,582 65	18,755 86	3,357 42
. .....	3,746 69	140 00	3,113 21	302 88	3,242 25	667 00	1,835 65	166 00
819 25	2,848 16	848 00	3,604 70	794 00	3,609 03	1,234 00	3,593 43	1,079 00
6,934 55	4,333 63	6,416 00	3,634 41	11,367 50	4,320 53	12,859 02	6,158 17	8,192 48
. ...	41,315 12	352 50	39,126 91	....	39,496 45	1,286 50	43,957 74	178 00
. . .	69,693 82	..... .	64,434 66	1,176 38	83,050 16	1,934 49	93,397 40	. .....
. .....	10,912 18	....	9,313 92	.. . .	13,382 28	.....	17,449 06	....
42,931 12	205.605 30	46,440 46	178,748 81	56,976 83	207,234 94	60,917 19	226,928 48	49,719 39
.....	149,990 63	....	149,999 85	....	165,967 22	....	156,892 25	....

FISHING BOUNTIES, 1891.

The payments made for this service are under the authority of an Act passed in 1891, 54–55 Victoria, chapter 42 (being a repeal of chapter 95, Revised Statutes), intituled: "An Act to encourage the development of the sea fisheries and the building of fishing vessels," which provides for the payment of a sum of $160,000 annually, under regulations to be made from time to time by the Governor in Council.

The total number of bounty claims received for the year 1891, was 19,663, against 18,071 in 1890, being an increase of 1,592 for the year. Of the total number of claims received, 1,177 were rejected for non-compliance with the regulations.

The number of claims paid during the year 1891 was 18,506, as against 17,959 in 1890.

The total amount of bounties paid in 1891, on the basis of $1.50 per ton to vessels, and $3 per man to boat fishermen, and $1 per boat to the owners thereof, was $156,891.85.

The number of vessels which received bounty in 1891 was 705, with a tonnage of 26,533 tons, showing a decrease of 34 vessels and a tonnage of 1,735 tons as compared with the previous year.

The number of boats on which bounty was paid was 17,701, and the number of boat fishermen to whom bounty was paid was 33,507, an increase of 533 boats and 262 fishermen over the year 1890.

The total number of fishermen in vessels and boats, to whom bounty was paid during the year 1891 was 38,859, as against 39,050 in 1890.

For details of payments to vessels and boats, see Appendix No. 2.

The following statement in connection with fishing bounty payments since the year 1882, show:—

1. Year when bounty was established, 1882.

2. Number of claims per year, as follows:—

In 1882	11,972,	representing	29,932	fishermen.
1883	13,086	do	33,399	do
1884	12,468	do	31,297	do
1885	14,124	do	33,564	do
1886	14,900	do	33,523	do
1887	15,416	do	34,387	do
1888	15,599	do	34,887	do
1889	17,078	do	38,343	do
1890	17,959	do	39,050	no
1891	18,506	do	38,859	do
Total	151,108	do	347,241	do

3. Amount of bounty paid per year, as follows:—

In 1882	$172,285 47	In 1887	$163,757 92
1883	130,344 85	1888	150,185 53
1884	155,718 98	1889	158,526 54
1885	161,539 39	1890	158,241 01
1886	160,903 59	1891	156,891 85
Total amount of bounty paid			$1,568,395 13

4. Proportion of bounty per head:—

In 1882 vessels were paid at the rate of $2 per ton, one-half being payable to the owner and the other half to the crew.

Boats were paid on the basis of $5 per man, one-fifth of which went to the owner and four-fifths to the men.

In 1883 the rate to vessels was $2 per ton, and paid as in 1882. The basis of payment to boats was $2.50 per man, one-fifth of which was paid to the owner and four-fifths to the men.

In 1884 vessels were $2 per ton, as in 1882 and 1883; and owners of boats were paid as follows:—

On boats from	14	feet keel to	18	feet keel	.....	$1 00
do	18	do	25	do	.....	1 50
do	25	do	upwards		.....	2 00

And boat fishermen $3 each.

In 1885 vessels were paid $2 per ton as in previous years. The rate to boats was the same as in 1884, with the admission of boats measuring 13 feet keel. Boat fishermen $3 each.

In 1886 and 1887 the rate to vessels and boats remained the same as in 1885.

In 1888 vessels were paid at the rate of $1.50 per ton, one-half to owner and one-half to crew, as formerly. Boats remained the same as in 1885–86–87, and boat fishermen $3 each.

In 1889 the rate to vessels remained the same as in 1888. Owners of boats were paid $1 per boat, and boat fishermen $3 per man. These rates also formed the basis of payments for the years 1890 and 1891.

The total number of vessels paid is 8,139 (with a tonnage of 309,998 tons), and the number of crew 64,725.

Average number of men per vessel, 8.

The total number of boats paid is 142,812, and boat fishermen 82,486. Average number of men per boat, 2.

5. The highest bounty paid per head to vessel fishermen was $17.50, the lowest 83 cents.

The highest bounty paid per head to boat fishermen was $4, the lowest being $2.

The general average paid per head, $4.52.

NEW REGULATIONS GOVERNING PAYMENT OF FISHING BOUNTIES.

Feeling the necessity for more stringent regulations governing the payment of fishing bounties, and for the better information and guidance of fishermen making claim thereto in the future, and officers engaged in the collection of claims and the distribution of the money, the following regulations were approved of by His Excellency the Governor General in Council on the 20th August, 1892, and after publication in the "Canada Gazette" of 3rd September, in accordance with the Bounty Act, were distributed amongst claimants:—

AT THE GOVERNMENT HOUSE AT OTTAWA,

SATURDAY, the 20th day of August, 1892.

Present :

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL.

His Excellency, in virtue of the provisions of the "Bounty Act of 1891," 54-55 Victoria, chapter 42, and by and with the advice of the Queen's Privy Council for Canada, is pleased to order that the following regulations governing the payment of fishing bounties, be approved :—

REGULATIONS governing the payment of fishing bounties, as provided by section 6 of the Bounty Act of 1891, 54-55 Victoria, chapter 42.

1. Fishermen who have been engaged in deep-sea fishing, for fish other than shell-fish, salmon and shad, or fish taken in rivers or mouths of rivers, for at least three months, and have caught not less than 2,500 pounds of sea-fish, shall be entitled to a bounty, provided always that no bounty shall be paid to men fishing in boats measuring less than 13 feet keel, and not more than three men (the owner included) will be allowed as claimants in boats under twenty feet.

2. Only one claim will be allowed in one season, even though the claimant may have fished in two vessels, or in a vessel and a boat, or in two boats.

3. The owners of boats measuring not less than thirteen feet keel, which have been engaged during a period of not less than three months in deep-sea fishing for fish other than shell-fish, salmon or shad, or fish taken in rivers or mouths of rivers, shall be entitled to a bounty on each such boat.

4. Canadian registered vessels of 10 tons and upwards (up to 80 tons) which have been *exclusively* engaged during a period of not less than *three months* in the catch of sea-fish other than shell-fish, salmon or shad, or fish taken in rivers or mouths of rivers, shall be entitled to a bounty to be calculated on the registered tonnage, one-half of which bounty shall be payable to the owner or owners, and the other half to the crew, except in cases where one or more of the crew shall have failed to comply with the regulations, then such share or shares shall not be paid.

5. Owners or masters of vessels intending to fish and claim bounty on their vessels, must, before proceeding on a fishing voyage, procure a license from the nearest collector of customs, or fishery overseer, said license to be attached to the claim when sent in for payment.

6. Dates and localities of fishing must be stated in the claim, as well as the quantity and kinds of sea-fish caught.

7. Ages of men must be given. Boys under 14 years of age are not eligible as claimants.

8. Claims must be sworn to as true and correct in all their particulars.

9. Claims must be filed on or before the 30th November in each year.

10. Officers authorized to receive claims will supply the requisite blanks, free of charge, and after certifying the same will transmit them to the Department of Marine and Fisheries.

11. No claim in which an error has been made by the claimant or claimants shall be amended after it has been signed and sworn to as correct.

12. Any person or persons detected in making returns that are false or fraudulent in any particular, will be debarred from any future participation in the bounty, and be prosecuted according to the utmost rigour of the law.

13. The amount of the bounty to be paid to fishermen and owners of boats and vessels will be fixed from time to time by the Governor in Council.

JOHN. J. McGEE,
Clerk of the Privy Council.

NEW REGULATIONS RELATIVE TO THE COLLECTION OF CLAIMS.

Frauds in fishing bounty claims under the system of filing applications in operation since the inauguration of the Bounty Act having occurred, it became necessary to adopt some other arrangement for the collection of claims in order to protect legitimate fishermen as well as for the prevention of future frauds. The practice heretofore has been for fishermen to execute their claims before magistrates who forwarded them to the fishery officers for transmission to the department. This system gave rise to serious irregularities resulting in the filing of bogus applications, which was brought about, in a large measure, through the carelessness or indifference on the part of the magistrates who signed many of the claims without taking the declarations which applicants were required to make in proving their claims. It was decided that in future all claims be collected by duly authorized officers of the department, with definite districts in which to confine their labours. Such officers are required to visit the fishing localities of their respective districts, for the purpose of personally receiving the claims from the fishermen, public notices having first been posted in each settlement notifying the fishermen when the officer will be on hand to receive the claims. The officers being vested with the powers of a justice of the peace, the claims must be attested to before them. It is believed that the calling together of the fishermen of a locality to file their claims personally with the officer will have the effect of checking any attempt at fraud that might otherwise be perpetrated.

Under the old system of filing claims 157 officers were engaged in the distribution of the bounty. This number has been reduced to 44 under the new scheme, as shown by the following schedule of officers and districts:—

SCHEDULE OF FISHING BOUNTY OFFICERS AND DISTRICTS.

NOVA SCOTIA.

Name of Officer.	Extent of District.
A. C. Bertram, Inspector of Fisheries, North Sydney	The county of Cape Breton.
D. F. McLean, Fishery Overseer, Port Hood	The county of Inverness.
Alfred E. Lenoir, Fishery Overseer, Arichat	That portion of the county of Richmond lying west of St. Peter's Canal, including Madame and other islands.
John Murchison, Fishery Overseer, Grand River	That portion of county of Richmond lying east of St. Peter's Canal.
Duncan McDonald, Fishery Overseer, Aspy Bay	The county of Victoria.
R. Hockin, Inspector of Fisheries, Pictou	The counties of Pictou and Antigonish, also the northern coast of Colchester County.
William Cameron, Fishery Overseer, Guysboro'	The county of Guysboro'.
George Rowlings, Fishery Overseer, Musquodoboit Harbour	The coast of East Halifax extending from Dartmouth to Guysboro' County line.
Alfred Ogden, Bay View Hatchery, Pictou	The coast of West Halifax extending from Halifax City to Lunenburg County line, including Bedford Basin.

Name of Officer.	Extent of District.
David Evans, Fishery Overseer, Chester	The eastern section of Lunenburg County, from, and including Mahone Bay to Halifax county line.
Wm. M. Solomon, Fishery Overseer, West La Have Ferry	That part of the coast of Lunenburg County, west of, but not including, Mahone Bay, to Queen's county line.
J. N. Freeman, Fishery Overseer, Liverpool	The county of Queen's.
W. J. McGill, Fishery Overseer, Shelburne	The county of Shelburne.
J. A. Hatfield, Fishery Overseer, Tusket	The county of Yarmouth.
J. R. Kinney, Inspector of Fisheries, Yarmouth.	The counties of Digby, Annapolis and King's.
New Brunswick.	
Capt. J. H. Pratt, Inspector of Fisheries, St. Andrews	The county of Charlotte and adjacent islands.
Jos. O'Brien, Fishery Overseer, Carleton	The county of St. John.
W. F. Hannah, Fishery Overseer, Richibucto	The county of Kent.
J. G. Williston, Fishery Overseer, Bay du Vin	That part of the coast of Northumberland County extending from Kent County line to Point aux Carr.
Lemuel Abbott, Fishery Overseer, Chatham	From Point aux Carr on the south side of Miramichi River to Oak Point on the north side.
Prudent Robichaux, Fishery Overseer, Upper Neguac	From Oak Point to Gloucester County line.
R. A. Chapman, Inspector of Fisheries, Moncton.	The counties of Westmoreland and Gloucester.
Alex. McPherson, Fishery Overseer, River Charlo.	From Belledune to Dalhousie.
Prince Edward Island.	
Augustine J. McInnes, Fishery Overseer, Georgetown	The county of King's and that part of the county of Queen's lying east of Hillsborough Bay and River.
A. Lord, Fishery Officer, Charlottetown	The county of Prince and that part of the county of Queen's lying west and north of Hillsborough River.
Quebec.	
County of Bonaventure.	
John Phelan, Fishery Overseer, Port Daniel	That part of the coast of Bonaventure County extending from Point Maquereau to and including Paspebiac.
J. R. Smith, Fishery Overseer, New Carlisle.	That part of the coast of Bonaventure County extending from (but not including) Paspebiac to Grand Cascapedia River.
Peter Cyr, Fishery Overseer, Robitaille	That part of the coast of Bonaventure County extending from Grand Cascapedia River to Maguasha.

County of Gaspé.

Name of Officer.	Extent of District.
Henry Jones, Fishery Overseer, Little River West	That part of the coast of county of Gaspé from Point Maquereau to and including corner of the Beach.
G. T. Annett, Fishery Overseer, Peninsula	That part of the coast of Gaspé from, but not including, corner of the Beach to and including Cape Rosier.
Pierre Theriault, Fishery Overseer, Griffin Cove	From, but not including, Cape Rosier to Fame Point.
Jos. Lemieux, Fishery Overseer, Mont Louis	From Fame Point to Duchesnay Township line.
J. I. Letourneau, Fishery Overseer, Ste. Anne des Monts	From Mont Louis Township line to Rimouski County line.
A. J. Chevrier, Fishery Overseer, Amherst, M.I.	Amherst and Entry Islands.
P. L. Joncas, Fishery Officer, House Harbour, M.I	All Magdalen Islands except Amherst and Entry.

County of Rimouski.

Johnny Joncas, Fishery Overseer, Matane	That part of the coast of Rimouski County, from River Blanche to Gaspé County line.

County of Saguenay.

N. A. Comeau, Fishery Overseer, Godbout	From Manicouagan to Baie des Rochers.
T. Migneault, Fishery Overseer, Moisie	From Baie des Rochers to Point St. Charles.
Geo. Du Berger, Fishery Overseer, Mingan	From Point St. Charles to, and including, Esquimaux Point.
Geo. Gaudin, Fishery Overseer, Natashquan	From, but not including, Esquimaux Point to Natashquan River.
G. Mathurin, Fishery Overseer, Kegashca	From Natashquan River to Cape Whittle.
John LeGouvié, Fishery Overseer, La Tabatière	From Cape Whittle to Checatica.
W. H. Whitely, Fishery Overseer, Bonne Espérance	From Checatica to Blanc Sablon.
Wm. Wakeham, Inspector of Fisheries, Gaspé Basin	Anticosti Island.

The above named officers were authorized to attend to the collection of claims in their respective districts, and the following letter of instructions, dated 17th August, 1892, was issued for their information and guidance:—

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, 17th August, 1892.

SIR,—In view of the serious irregularities which have been practised for some time in connection with Bounty Claims, resulting in the filing of a large number of fraudulent, and in some cases entirely bogus applications, a new system has been adopted by which all claims, except those hereinafter mentioned, must be taken personally by the officer of each district.

I am therefore to inform you that, until otherwise ordered, you are authorized to receive bounty claims, certify and transmit them to this department; and with this object in view, the following instructions are issued for your guidance:—

1. The district over which you will have charge will be found described in the appended Schedule of Officers and Districts;

2. It will be your duty to visit each fishing settlement in your district to personally receive all claims, public notices (a supply of these notices being sent with these instructions) having first been put up in each locality by any local officer deputed by you for that purpose, notifying the fishermen that you will be at a place to be stated in the notice on a day certain to receive the claims;

3. As all claims must be filed by the 30th November in each year, you should arrange to make your tour at such a time as will warrant the collecting of the claims by that date, bearing in mind the ordinary date for the conclusion of fishing ventures; and, if possible, at a time when other official duties call you to the locality, so that the expenses be kept as low as possible;

4. Should there be any fishermen who, owing to absence or other causes, are unable to appear before you and make their applications at the appointed time, such claims may be proved before a fishery officer of the locality selected by you for that purpose, full notice of the name of this officer should be given to the fishermen so that they may know where their claims can be filed. All such claims in your district must, however, be transmitted to you for verification and certificate, as no claim will be entertained which has not been received or reported upon by the proper officer;

5. Make strict enquiries in order to ascertain if claimants are entitled to bounty before certifying their claims. In this connection, I may state that trap nets and weirs are not included among the modes of fishing upon which bounty is paid; therefore fishermen so engaged are not entitled to bounty, unless they have otherwise complied with the regulations;

The term "three months" in the regulations does not imply three consecutive months, but that the whole time engaged in fishing must cover a period of three full months. Accompanying this letter are the regulations touching the filing and allowance of claims;

6. In case of doubt as to the correctness of a claim, you should report fully your objections, so as to enable the department to determine whether further enquiry is necessary, or not;

7. Each claim must contain the names of all the fishermen entitled to the bounty, belonging to the vessel or boat for which the claim is made, and care should be taken to see that the forms are properly filled in under the various headings;

8. All claimants should, if possible, sign and swear to the claims; but in cases where any one of them is absent at the time the claim is made, and his signature cannot be obtained, the name *must not* be signed by a substitute. When claimants are unable to write, they should make their mark in presence of a witness, who must also sign the claim as such witness;

9. No claims for vessels should be certified or transmitted by you, unless accompanied by the requisite license;

10. When licenses are applied for, they should not be issued in blank, with your name signed thereto, but must contain all the information required by the department. In all cases, the master of a vessel is to be reckoned as one of the crew when filling up the license, and no license should be altered in any respect, after being issued;

11. You are particularly requested to confine yourself to the collection of claims within your district, as described in the schedule already referred to;

12. You are authorized under the "Fisheries Act," chapter 95 Revised Statutes of Canada, also under chapter 42 of the Bounty Act of 1891, to exercise the powers of a justice of the peace within the district for which you are appointed to act as a fishery officer; therefore, all claims taken by you personally *must be sworn to* before you as true and correct.

I am to request that these instructions be strictly carried out, and that you use every effort in your power to prevent the filing of fraudulent or dual claims, so as to bring about a proper enforcement of the regulations.

The necessary forms and papers are sent to you with this letter. All old claim forms in your possession, or which you may find during your visit through your district, should be destroyed.

When in a fishing locality, you should enquire into all matters relating to the fisheries, and any information brought to your notice requiring attention should at once be communicated to this department.

As the duties required of you in connection with fishing bounty claims will involve additional labour on your part, the question of increasing your salary will be submitted to the Governor in Council for consideration.

You are particularly requested to acknowledge this letter, as well as all papers accompanying it; and at the same time state in what particulars you desire further instructions.

I am, Sir, your obedient servant,

WM. SMITH,

Deputy Minister of Marine and Fisheries.

The adoption of this scheme is highly approved of by the fishery inspectors and officers to whom it was referred for remarks and suggestions. The department is of opinion that this will have the effect of largely reducing the number of claims filled as compared with past years, thus benefiting *bonâ fide* fishermen by increasing the rate of their bounty.

IRREGULARITIES *RE* FISHING BOUNTY CLAIMS.

The falsity of certain fishing bounty claims having been brought to the notice of the department, it was considered advisable, in order to check the practice of filing improper applications, to institute criminal proceedings against the parties connected with such frauds. The cases referred to are as follows:—

COUNTY OF HALIFAX, N.S.

In 1890, Thomas H. Renner, of Halifax, applied for bounty to schooner "John Millard," alleging that this vessel had been engaged fishing during a period of three months, while the records showed that she had been employed in other pursuits and did not comply with the regulations. Action was entered against Renner in March, 1892, on a charge of perjury, and although there appeared to be sufficient evidence of the falsity of the return, there was no proof of the declaration having been properly made, and the action fell.

The claims of Wm. H. Naugle, Henry Naugle, Edward Osborne, Wm. York, George Soward and Douglas Fraser, of Eastern Passage and Cow Bay, for 1891, having been reported as false, inquiries were made and evidence of fraud adduced

in connection with each case. The evidence in the case of Wm. York and Georg Soward being the strongest, these men were charged with obtaining bounty mone under false pretences. The parties who had previously stated they could prove tha the applications were fraudulent, swore at the preliminary investigation that the knew nothing about the matter, and the prisoners were discharged.

COUNTY OF RICHMOND, N.S.

During the year 1891, Daniel J. Kavanagh, of Grandigue, fished in a boa owned by Philip Gruchy, of D'Escousse. Kavanagh filed a claim alleging owne ship of a boat, and to have fished with Alex. McLean, who was not in any way con nected with Kavanagh during the season. This case is in the hands of the Depart ment of Justice, with the view of having criminal proceedings taken against D. J Kavanagh.

COUNTY OF VICTORIA, N.S.

Special inquiries having been made into the claims from this county for th year 1891, several illegal applications were discovered. In the district of Iona, o Grand Narrows alone, 45 claims were filed in the names of persons who did no exist. It was ascertained that M. A. J. McDonald, R. A. McNeil and John P McNeil, of Grand Narrows, were responsible for the filing of these claims, and tha each of the above-named parties had received and made use of the cheques issued i payment of the claims put in by him. The evidence implicating the above-name parties in these frauds being very strong, and in the opinion of the Department o Justice, sufficient to warrant criminal proceedings, informations were laid agains M. A. J. McDonald and R. A. McNeil, charging them with obtaining bounty mone under false pretences. On the first charge against McDonald the accused was pu on trial before the Stipendiary Magistrate, at Baddeck, under the Summary Trial Act, but the evidence proving weak, the prisoner was acquitted. In the secon case, Mr. McDonald was committed for trial before the Supreme Court, but whe the case came before the Grand Jury, they found no bill.

The first charge against R. A. McNeil was also dismissed; the evidence adduce at the investigation being insufficient in the opinion of the court to put the accuse on his trial.

Information was also laid against John P. McNeil charging him with false pr tences as in the other cases. This case, as well as the second charge against R. A McNeil, is pending.

It appears that the accused parties admitted to the Inspector of Fisherie A. C. Bertram, who investigated the irregularities, that they were responsible fo the frauds, and that the confessions were made in presence of a witness. This wi ness, however, being friendly to the accused, contradicted the statements regardin the confessions *in toto*.

COUNTY OF KENT, N. B.

In 1891, certain bounty cheques were delivered to Alex. Maillet, of Ste. Ann on orders which he stated had been given to him by claimants who had sold hi their bounties for 1890. It was afterwards found that the orders were forgeries an that the parties by whom they were alleged to have been given filed no claims fo bounty. It appears that the claims, one of which was in the names of fictitiou claimants, were put in by Justice of the Peace Sylvain Babin, of Ste. Anne, an that the orders presented by Maillet were forged by Babin so as to enable him t obtain the cheques.

Criminal actions were entered against Babin and Maillet and five indictments found against the former and four against the latter. When these indictments were laid before the grand jury at the sitting of the County Court for Kent, held in July, 1892, true bills were found. Babin was granted bail a short time before the court opened, and when the case was called, he did not appear. His bail was escheated and a bench warrant issued for his arrest.

On the Maillet indictment being called, a postponement was granted until the next court and the prisoner admitted to bail.

COUNTY OF GLOUCESTER, N. B.

In 1891, about 500 bounty claims were filed from the Parish of Beresford. Serious irregularities were suspected and inquiries made elicited the fact that such existed on a large scale. Inspector of Fisheries R. A. Chapman, of Moncton, was appointed a Commissioner to investigate these cases under oath. It was found that while a few of the claimants had fished during the required time, not one of the applications were valid. Claims were made in the names of persons who did no fishing, and others who fished during a few days only, as well as for persons who were not in the district during the season. It was also ascertained that nearly every boy in the parish, from the cradle up, were represented as hardy fishermen.

The magistrates before whom the claims were executed appear to a large extent responsible for these frauds as they signed the applications knowing them to be false, and with very few exception took no declarations.

The Fishery Officer Fred. Comeau, of Petit Rocher, was also aware of the irregularities, yet he certified the claims as correct. He expected to get most of the cheques in payment of store accounts, but fortunately the frauds were discovered in time before the cheques were distributed.

This officer was dismissed, and the papers referred to the Department of Justice for criminal proceedings against the parties connected with such frauds.

The same state of affairs also existed in the Shippegan districts, in which Fishery Officers John Delegarde and Alex. Boyd were implicated, along with certain magistrates and merchants. The services of these officers were also dispensed with, and steps taken to criminally proceed against all the parties connected with the frauds.

PRINCE COUNTY, P.E.I.

Hugh J. Larkin and Justice of the Peace J. H. Gaudet, of Tignish, appear to have conspired to defraud the Crown in the execution of false claims in 1890. Certain returns were prepared by Hugh J. Larkin, who attached the signatures of the claimants, some of whom were not entitled to bounty, and J. H. Gaudet signed them pretending to have taken the declarations.

Criminal proceedings against the parties are also pending.

FISHERIES PROTECTION SERVICE.

The work of this service has been performed without accident, and in a satisfactory manner.

The fleet was composed of the following steam vessels:—"Acadia," "La Canadienne," "Stanley," "Constance" and "Curlew," together with the Government schooner "Vigilant," and the chartered schooner "Kingfisher." During the early part of the year, the chartered steamer "St. Nicholas" was also employed. This vessel was returned to her owners immediately before the commissioning of the "Curlew."

The above fleet was under the command of Lieut. A. R. Gordon, R.N., who issued his instructions from Ottawa, and immediately directed in the Gulf by Commander Wakeham, from on board the "Acadia." The details of the season's operations are contained in Appendix No. 3, of the present report.

The cost of the service for the fiscal year 1891-92 was $93,397.40.

During the season, two new steam cruisers were completed and commissioned the "Constance" and the "Curlew." These vessels were built at Owen Sound Ontario, by the Polson's Iron Works Company.

Under an arrangement with the Department of Customs the "Constance" was engaged in the revenue service in the River and Gulf of St. Lawrence. The cost of building and the running expenses of this vessel were met by the Customs Department.

The "Curlew," on being commissioned, took up the Bay of Fundy station where she will do the work formerly done by the chartered steamers "Dream" and "St. Nicholas."

On the 1st of November, the surveying steamer "Bayfield" was commissioned for fishery service in the Georgian Bay and Lake Huron, for the purpose of enforcing the regulations governing the close season for whitefish and salmon trout.

With a view to a more vigorous protection of these waters, a third cruiser of the same class as the "Constance" and "Curlew" has been built by the same company and will, it is expected, be ready for commission in the spring.

The following vessels were seized during the season:—The United States schooner "Hattie Maude," of Portland, Maine, was seized by Capt. Pratt, of the "Curlew," for having shipped men for a fishing voyage in a Canadian port, without first having taken out a license. The vessel was released on payment of costs it being proved that she had changed hands; her present owners being unaware of her being liable for this breach of the law before she came into their hands.

The schooners "Willie" and "Marie Rose" were seized, together with a considerable quantity of contraband articles on board by the "Acadia," under Capt. O. G. V. Spain. These schooners were engaged in smuggling from St. Pierre Miquelon.

Capt. May, in the "Constance" also seized in the River St. Lawrence a schooner, name unknown, with a full load of contraband spirits, inwards from St. Pierre, besides a number of small yachts and boats caught while running in small lots of spirits along the river shores.

United States fishing vessels took advantage of the license system, which permits them to purchase bait, ice, and supplies, as well as to ship men and tranship cargoes to a larger extent than in 1891, as is shown by the following table:—

Year.	No. of Vessels.	Tonnage.	Fees Paid.
1891	98	7,399	$11,098·50
1892	108	8,940	13,410·00

The full list of vessels taking out these licenses is given in Appendix No. 3 of this report.

FISHERIES INTELLIGENCE BUREAU.

The report of this service, which has become a necessity to the fishing community, is given in full in connection with the general report on the fisheries service. The reports from the north shore of the Gulf are of particular utility to the large firms doing business there. While the information contained in the daily bulletin is being more largely and intelligently used by the masters of fishing vessels, and more particularly those in search of bait.

A full report of this season's work will be found in Appendix No. 4.

THE FISHERY LAWS OF THE DOMINION.

TABLE of Close Seasons in force on 31st December, 1892.

Kinds of Fish.	Ontario.	Quebec.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Manitoba and N.W. Territories.	British Columbia.
Salmon (net fishing)		Aug. 1 to May 1.	Aug. 15 to Mar. 1.	Aug. 15 to Mar. 1.			
Salmon (angling)		Aug. 15 to Feb. 1.	Aug. 15 to Feb. 1.	Aug. 15 to Feb. 1.			
Speckled Trout (*Salvelinus Fontinalis*)	Sept. 15 to May 1.	Oct. 1 to April 30.	Oct. 1 to April 1.	Sept. 15 to Mar. 31.	Oct. 1 to Dec. 1.	Sept. 15 to May 1.	Oct. 15 to Mar. 15.
Salmon Trout	Nov. 1 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 15 to Nov. 30.		Oct. 15 to Mar. 15.
Large Grey Trout, Lunge, Touladi and Land-locked Salmon		Oct. 15 to Dec. 1.	Oct. 1 to April 1.	Sept. 15 to May 1.			Oct. 15 to Mar. 15.
Ouananiche		Sept. 15 to Dec. 1.					
Pickerel (Doré)	April 15 to May 15.	April 15 to May 15.				April 15 to May 15.	
Bass and Maskinongé	Apr. 15 to June 15.	May 25 to July 1.					
Sea Bass			Mar. 1 to Oct. 1.	Mar. 1 to Oct. 1.			
Whitefish	Nov. 1 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 15 to Nov. 30.	Oct. 5 to Dec. 15.	
Smelts		April 1 to July 1. Bag net fishing prohibited, except under license.	April 1 to July 1.	April 1 to July 1.	April 1 to July 1.		
Lobsters		July 15 to Dec. 31.	July 1 to Dec. 31. On Atlantic coast, from Cape Canso to boundary line, U.S., July 15 to Dec. 31, in remaining waters of Nova Scotia and New Brunswick.	July 1 to Dec. 31.	July 15 to Dec. 31.		
Sturgeon		May 15 to July 15.	May 15 to July 15.	May 15 to July 15.	May 15 to July 15.	May 15 to July 15.	May 15 to July 15.
Oysters*		June 1 to Sept. 15.	June 1 to Sept. 15.	June 1 to Sept. 15.	June 1 to Sept. 15.		

* Fishing for oysters through the ice is prohibited.

SYNOPSIS OF FISHERY LAWS.

Net fishing of any kind is prohibited in public waters, except under lease or license.

The size of nets is regulated so as to prevent the killing of young fish. Nets cannot be set or seines used so as to bar channels or bays.

A general weekly close time is provided in addition to special close seasons.

The use of explosive or poisonous substances for catching or killing fish is illegal.

The use of fire-arms for killing fish is prohibited.

Mill dams must be provided with efficient fish-passes. Models or drawings will be furnished by the department on application.

The above enactments and close seasons are supplemented in special cases, under authority of the Fisheries Act, by a total prohibition of fishing for stated periods.

FISHERY REGULATIONS.

MANITOBA AND THE NORTH-WEST TERRITORIES.

The Fishery Regulations for Manitoba and the North-west Territories adopted on the 4th January, 1892, were published in full in last year's report (page lvii). With a few modifications, suggested by the requirements of certain localities, and which the department was able to carry out without departing from the principles already laid down, these regulations have proved generally acceptable to the people, notwithstanding the various interests—both domestic and commercial—engaged. While framed in the main with the view of protecting and maintaining the fishery wealth of the great north-western waters, these regulations do not unduly interfere with the interests of commercial fishermen, settlers and Indians.

The fishing companies and traders were restricted to certain limits for commercial fishing, so as not to encroach upon the sections more properly reserved for the use of settlers and Indians. On the other hand, the settlers were prevented from killing fish in waters set apart for Indians while the latter, when fishing for their own use only and not for sale or barter, were granted such special privileges as free permits or fishing during close season, when all others were forbidden to fish, in such waters as the Minister of Marine and Fisheries might deem advisable to set apart for their exclusive use. That the department should have experienced some difficulty in impressing the Indians of the North-west with the necessity of strictly complying with these regulations is not to be wondered at, when the fact is borne in mind that these people had been taught to look upon the fish as their private property, and naturally regard any restrictions placed upon their fishing as an infringement upon their rights. It is confidently expected, however, that as the Indians become more civilized, they will recognize the wisdom of these restrictions, and will more readily accept the advice of Indian agents, many of whom are clothed with the powers of fishery overseers to enable them to render all the assistance in their power to preserve what must, for many years to come, be the chief source of food of the Indians.

It would be impossible to thoroughly enforce fishery regulations in such an immense extent of territory as the Canadian North-west without an enormous expenditure of money occasioned by the employment of a large staff of officials. The department, however, avails itself, with the concurrence of the Minister of the Interior, of the services of Crown Timber agents, Indian agents, members of the Mounted Police, &c., and has appointed them fishery officers, without pay, for the purpose of assisting in carrying out the provisions of the fishery laws within their respective districts.

On the representation of the Department of Indian Affairs and upon the favourable report of the Inspector of Fisheries for Manitoba, permission was granted to fish for coarse fish under special permits, during the fall close season. This will in no way interfere with the decision that fishing is to be restricted to pound-nets where whitefish are not found during the spawning season, as the instructions provide that each application must describe the locality to be licensed, the officers will then be able to judge whether the application is one that fulfils the requisite conditions.

ONTARIO.

The several changes which it was intended to make in the Fishery Regulations or Ontario were suspended pending the results of investigations by a special com-

mission appointed to inquire into the dates of spawning of the principal kinds of fish in the above-named province; the proper mesh of nets to be used; the various modes of fishing, and the restrictions which it might be advisable to adopt regarding pound-net, gill-net and hoop-net fishing.

Salmon trout and whitefish are the staple fish of the great lakes, their aggregate value forming more than one-half the total yield of the fisheries of the province of Ontario. These fish are of similar habits, and generally frequent the same waters. For several years past, the close seasons have been identical, as it is almost impossible to obviate the catching of one kind when fishing for the other. Since 1885, the close season for salmon trout and whitefish has been fixed so as to include the whole month of November. In order to afford additional protection to these fish, and in accordance with the recommendations of the Superintendent of Fish Culture, who held that a close season beginning later than the 15th October did not fully cover the actual spawning time, the dates were fixed by Order in Council of 29th September, 1891, so as to read from 15th October to 30th November, thus making a prohibition of 45 days, instead of 30, as formerly.

Fresh water herring and ciscoes being also a fall spawning fish belonging to the Salmonidæ family, the same argument applied, and they were included in the same close time. This was the first occasion on which a close season had been made for herring and ciscoes.

Numerous petitions and representations were received against the above changes. The petitioners alleged that the difference in the temperature of the water affected, more or less, the dates of spawning in different localities; but, the principal ground of complaint was that the fishermen would be deprived of fifteen days' fishing when fishing was at its height and the fish were in good condition for food.

Should the investigation of the Commission now sitting establish that whitefish and salmon trout in Lake Superior, Lake Huron and Georgian Bay spawn a fortnight later than in Lakes Erie and Ontario, it might be possible to select suitable dates for these respective waters.

The Commission will also investigate matters relative to the spawning times of other fishes, such as sturgeon, bass, maskinongé and speckled trout.

An Order in Council dated 5th May, 1892, fixes the close season for sturgeon from 15th May to 15th July; but, as there seemed to be a great diversity of opinion among fishermen as to the actual time of spawning of this fish, the regulation was suspended,

It was also claimed by some that the present close season for bass (15th April to 15th June) does not cover the actual spawning time of these fish in certain parts of Ontario, and that the greatest number do not begin spawning before the middle of June. As the mother fish are known to protect its eggs during the hatching period and guard its young until they are able to take care of themselves, it was contended that the close time should extend until the 15th July. It was, moreover, claimed that during the first half of the present close season, bass were in prime condition for food, and that there was no reason why they should not be caught until the 25th May, without injury to the fishery.

With regard to the close season for speckled trout which is now fixed between the 15th September and the 1st May, there is also a great diversity of opinion among

sportsmen. A great many people are, moreover, engaged in the artificial breeding and rearing of trout for commercial purposes, and these people claimed that as the fish are in prime condition during the spring of the year, when they fetch the most remunerative prices on the United States markets, they should not be debarred from disposing of their property at times when it could be sold at the best advantage. An Order in Council was therefore adopted on the 20th February, 1892, rescinding the former regulation and fixing the close season for speckled trout from 15th September to 31st March. The question is not finally decided, but it has been allowed to remain in abeyance pending the result of the investigations of the Commission.

SPECKLED TROUT IN QUEBEC AND NEW BRUNSWICK.

An Order in Council dated 26th March, 1892, fixes the close season for the above-named fish in the province of Quebec between the 1st October and the 30th April, both days inclusive. It formerly used to be from 1st October to 31st December, but the great havoc occasioned by winter fishing necessitated this measure.

This change has the double advantage of securing greater protection to the fish after the spawning time is over when they are in poor condition, and making the law almost identical in all the provinces of the Dominion.

In New Brunswick, the close season for speckled trout was fixed by Order in Council of 16th June, 1892, from the 15th September to the 1st April.

Fishing for speckled trout (*Salvelinus fontinalis*) through the ice was prohibited in Canada, by Order in Council of the same date (16th June, 1892).

BASS AND MASKINONGÉ IN THE PROVINCE OF QUEBEC.

In the province of Quebec the close season for the above-named fish was altered by Order in Council of 26th March, 1892. It now reads from 25th day of May to 1st July, both days inclusive. The former dates were 15th April to 15th June. This change was necessitated by the fact that bass spawn later than pickerel.

EEL FISHERY, PRINCE EDWARD ISLAND.

It being complained that poachers in Prince Edward Island under pretense of spearing eels, were in the habit of killing salmon and trout, the following regulation was passed by Order in Council on the 9th May 1892 :—

No one shall fish for eels from boats with torches, in any waters of the province of Prince Edward Island frequented by salmon and trout, during the months of October, November and December.

ST. JOHN HARBOUR WEIRS.

Fish-escape.

On the 6th day of June, 1892, the following regulation was passed by Order in Council :—

Each weir used for fishing purposes within the limits of the Harbour of St. John, New Brunswick, shall be provided with a *fish-escape* of such pattern as may be approved by the Minister of Marine and Fisheries.

This measure is intended to give additional protection to young and immature fish, which as the tide recedes will thus be enabled to escape instead of being destroyed and wasted as was often the case in closed weirs.

MACKEREL NETS.

It being represented that enormous damage was done to the sea fisheries by the practice of leaving mackerel nets in the water during day time, and that beneficial results would ensue were the nets raised between 9 a. m. and 5 p. m., the following Fishery Regulation was passed on the 21st day of March, 1892 :—

1. No mackerel, herring or gaspereau net, or nets used for the purpose of catching mackerel, herring or gaspereau, shall be set or left set at the surface, or within twelve feet thereof, in the water between the hours of 9 a. m. and 5 p. m. between the 1st June and 31st August, both days inclusive, in each year, and all nets found in the water during the time above-mentioned, when the condition of the weather is such as to permit of their being taken up, shall be confiscated to Her Majesty, and the owner or user become liable for further penalties as provided by the statute.

2. No fleet of gill-nets of greater length than 60 fathoms shall be set to any single mooring between the 1st day of June and the 31st day of August, both days inclusive, under the penalties provided by the statute.

In connection with the operation of the above regulation the department has so far only been able to obtain the report of Commander Wakeham, who says :—

In the Inner Gulf, the regulation was well observed, and in all cases where nets were found set in violation of the law, they were confiscated. This regulation is approved of by most fishermen. On the Atlantic coast, south of Halifax, the practice, of recent years, has been to leave mackerel nets in the water during the day ; most fishermen using more nets than they can handle twice a day. Here the regulation was not well observed, and it will be necessary to send a cruiser to St. Margaret's Bay early in the season to enforce it. The regulation presses hard on gill-net fishermen; but it is a fair one, only fair to the hook and line and trap-net fishermen, and in time it will be generally accepted as right even by those who now object to it.

FINES.

Under the provisions of the Fisheries Act, chap. 95, Revised Statutes of Canada, fishery officers were debarred from participating in the fines imposed at their instance. To remedy this injustice, subsection 4 of section 18 of the above statute was repealed and the following substituted therefor:

4. A moiety of every pecuniary penalty levied by virtue of this Act shall belong to Her Majesty, and the other moiety shall be paid to the prosecutor together with costs taxed to him in respect thereof.

The following schedule of fishery officers who have already participated in a moiety of penalties imposed at their instance, shows that this amendment to the Fisheries Act is well appreciated, and that it has tended to render the officers of the department more zealous in the performance of their duties and the detection of violations of the law :

Ontario—Samuel Boddy	$	6 50
" Jos. Boismier		9 50
" E. Deacon		6 00
" D. W. Edgar		2 00
" Wm. Hicks		2 00
" Fred. Kerr		5 00
" Timothy McQueen		5 00
Quebec —Jos. Charbonneau		50 00
" J. Joncas		20 00
" J. Phelan		2 50
Nova Scotia—Wm. Burke		8 00
" D. Cameron		6 50

Nova Scotia—Thomas Day		$42 50
"	David Evans	15 00
"	J. Fitzgerald	10 00
"	R. Gaston	15 00
"	J. A. Hatfield	17 50
"	W. J. McGill	10 00
"	D. J. McLean	8 00
"	A. McQuarrie	10 00
"	J. D. McQueen	5 00
"	Wm. Murphy	40 00
"	Geo. Rowlings	5 00
New Brunswick—Jos. O'Brien		20 00
British Columbia—Thos. McNeish		32 50

THE BASS FISHERY OF THE ST. JOHN RIVER, N.B.

Bass-fishing, which a few years ago was one of the principal industries of the St. John River, N.B., shows undoubted signs of falling off. In Belleisle Bay, King's County, where the finest bass-fishing used to be found, it has been of late steadily declining until it proved an utter failure last season. Five years ago the catch of bass in the St. John River amounted to 116,000 lbs., while in 1891 it fell to 15,000 lbs. Owing to this alarming decrease, which could only result in the total extinction of a once valuable industry, the department deemed it necessary to adopt stringent measures with the view of saving it, if possible, from entire destruction.

After due consideration and taking the advice of competent persons, an Order in Council was passed, prohibiting fishing for bass, in any manner whatever for the period of three years from 1st May, 1892, in the waters of the St. John River and its tributaries flowing through the Counties of St. John, King's, Queen's, Sunbury and York.

THE BASS FISHERY OF THE MIRAMICHI.

In 1889, owing to the steady and rapid decline of this once remunerative industry, bass-fishing was also prohibited for a period of three years on the Miramichi River and its tributaries, as well as in the waters of Miramichi Bay and streams emptying therein.

The catch of bass in the Northumberland County for the last six years before prohibition gives the following figures, which need no comment:

	Lbs.
1883	170,667
1884	149,000
1885	130,700
1886	78,390
1887	41,621
1888	23,077

The above statement, which shows such an alarming falling off in the short period of six years, was sufficient to justify the adoption of stringent measures, and, as already stated, fishing for bass in the above named waters was prohibited for a term of three years. As this term expired on the 1st December, 1892, and as the beneficial results of this prohibition were only now beginning to be felt, it was found necessary to renew it for a further period of three years. This, it is confidently expected, will put a stop to the alarming condition of late years and give time to this valuable industry to return to its former yield.

THE STURGEON FISHERY.

The history of the sturgeon fishing in the St. John River, N.B., can be resumed in a few words. Like the bass fishery, it was of short duration. Once found to be a remunerative business, improvident speculators rushed into it irrespective of protection, and although restrictions were legislated as early as 1881, they were of little avail to check the evil.

In 1881 a close season was established prohibiting the catch of sturgeon from 31st August to 1st May. The mesh of nets was fixed at 13 inches extension measure, and a license fee of $5 was imposed. In 1882 the license fee was raised to $15. This failed to have the desired effect, as this industry seemed to have passed into the hands of a few foreigners who furnished the gear to resident fishermen. The following brief description of the mode of catching and handling sturgeon will be found interesting.

The boats are large flat-bottomed affairs, roughly made of thin planks, but well adapted for the purpose. The nets are made of strong cotton cord, about 12½ inches in the mesh, from 40 to 60 yards long, and 15 to 20 feet deep. Each net is operated by drifting with a boat and two men. Fishing is carried on during the night. From five to eight fish is the average per boat, but at first, as many as twenty were caught during a single night. In the morning, the fish are taken to a floating platform attached to the shore. The heads and tails are cut off; the entrails removed; the skin taken off; the backbone cut out, and the two sides of the fish are packed in ice in large boxes, and exported to New York, where the flesh is smoked by small dealers for immediate consumption. Every portion of the sturgeon, as handled by these foreigners, is turned to profitable account. The roe, which is developed in astonishing quantity, closely resembles turnip seed in size and colour. This is manufactured into *Caviar* so highly relished by European *gourmets*. The "sound," or air bladder, which is very large, is carefully dried for export, being used in the manufacture of gelatine and the finer qualities of glue. The head, tail, skin, entrails and backbone are dried over a slow fire, and yield a considerable quantity of valuable oil, which is in great demand by leather dressers. The refuse, after the oil has been extracted, makes a good fertilizer and is composted by farmers in the neighbourhood of the fishery. Thus, every part of a fish hitherto considered valueless by our people, was turned into profitable account when properly handled, and became a source of remunerative employment to the fishermen of the vicinity while it lasted.

In 1880, the catch of this fish reached 602,500 lbs.; in 1881 it fell to 453,450 lbs.; in 1882 only 284,350 were taken; in 1883, 125,280 lbs.; in 1884, 42,450 lbs.; while the catch of 1885 yielded only 26,240, and in 1886 it had dwindled down to 16,264 pounds, a decrease of 97 per cent in seven years.

This meant practical exhaustion of the supply if further fishing was allowed to continue; so in 1886, the Inspector of Fisheries recommended a total prohibition of the fishing for at least five years. This suggestion was adopted, and no licenses have accordingly been issued since. Several applications were received this spring for licenses to resume sturgeon-fishing with nets, alleging that there were signs of improvement. If it is deemed advisable to reopen sturgeon-fishing in 1893, stringent measures will have to be enacted to regulate its operations, with a view to preserving a stock supply.

THE COD FISHERY.

This our most important commercial fish, yields about one-fifth of the whole value of the Canadian fisheries. The cod-fishing season generally lasts from 1st June to the end of November; later when the weather is not too boisterous. The inshore fishery is carried on in boats at the beginning and end of the season, when the water is cold. The bank fishery is pursued by schooners properly fitted out for such purposes.

Although it is yet too early to be able to give reliable data, it is apprehended that the close of this season will not prove so profitable as the beginning led us to expect. A falling off in price is also reported in foreign markets. The various reasons for this state of things, if substantiated, will doubtless be fully explained later in the reports of the fishery officers.

The following statement of the yield and value of cod for the past 20 years will show the standing of this staple industry in Canada:—

Years.	Cwts.	Value.
1891	849,838	$3,827,708
1890	857,734	3,433,580
1889	904,560	3,618,240
1888	1,050,847	4,203,388
1887	1,078,355	4,315,570
1886	1,081,416	4,553,079
1885	1,077,393	4,537,727
1884	1,022,389	4,303,074
1883	1,075,121	4,507,938
1882	903,030	3,779,461
1881	1,075,582	4,468,691
1880	1,092,514	4,534,262
1879	1,067,484	4,430,301
1878	902,496	4,051,922
1877	815,068	3,661,694
1876	830,860	4,133,845
1875	748,788	3,257,042
1874	797,890	3,502,227
1873	880,842	3,763,657
1872	824,438	3,490,327

It is worthy of remark that the catch of last year but slightly exceeds that of twenty years ago. The aggregate yield ranging between eight hundred thousand to one million cwts., shows that the fluctuations during that period are not very marked, being attributable more to unfavourable weather than to any other cause. In fact, complaints about the scarcity of cod or the exhaustion of the supply are seldom, if ever, heard of. While from year to year attention is called to fluctuations in the yield of various other kinds of fish, and remedial measures of protection, &c., have to be sought, it is a noticeable fact that cod always keeps up a seemingly unexhaustible supply. With the present facilities for keeping supplies of frozen bait, the improved methods of capture and the innovations in the process of curing and preparing the various brands of dried, boneless, or steam-compressed cod, this wholesome article of food should not retrograde. On the contrary, with all the efforts made to supply a superior article, the demand should not only steadily increase in the present foreign markets, but our fish should attract sufficient attention to create new ones.

It is said by some to be almost impossible for Canadian shippers to profitably export cod to Mediterranean ports so long as the French Government continues to give a bounty of $2 per quintal (being about half its value), for all codfish taken by their fishermen and exported to markets of other countries. Nevertheless, several extensive shipments were recently made from Caraquet and Shippegan, N.B., to Civita Vecchia (near Rome), to Naples, to Bari (on the Adriatic), and to Messina in Sicily. The products intended for these foreign ports are specially prepared as follows:—

The fish are dried harder than the Bay of Fundy or Newfoundland cod. They are not left in the salt so long in the first place. They are placed in a dry room in piles to sweat, and when moisture appears on the surface, they are spread out on flakes in the sun to dry again. This sweating and drying process is repeated until the fish are as hard as boards. This method is called the "Gaspé cure," and fish thus prepared command the highest prices.

OTHER METHODS OF DRYING COD.

The experiments of drying fish by Mr. Cathcart Thompson's process of absorbent pads, alluded to in last year's report, are not yet definitely concluded. Several tests have been made on a small scale, and although not fully meeting the expectations of the inventor, resulted satisfactorily.

The following explains Mr. Thompson's latest improved method:—

A number of light frames are made of 2-inch by 1½-inch lumber, 6 feet in length and 3 feet in width. One of these is laid upon the floor and a layer of dry moss and sawdust is spread thereon. This is covered with a sheet of cotton cloth large enough to envelope the frame, a layer of fish inside downwards is spread thereon, inside the edge of the frame, which is covered by another sheet of cotton. Another frame is placed over the first one and the same process continued till a height of three or four feet is attained, then a thicker layer of moss or sawdust is placed over the last tier of fish. A cover of boards sufficiently large to go inside the frame is laid over all. Weights, a lever or screw pressure, are then applied to thoroughly embed the fish in the absorbent. The spreading of the moss and sawdust over the layer of fish fills up the interstices between them and brings every part in contact with the absorbent, and at the same time prevents the fish being pressed out of shape.

A quantity of 200 lbs. of cleaned fish put under the above described process gave the following weights:—

					Lbs.		Loss.
200 lbs.	after	72	hours,	pressure weighed	170	= 15	per cent.
200	"	48	"	"	155	= 7½	"
200	"	72	"	"	144	= 5½	"
200	"	72	"	"	134	= 5	"
200	"	48	"	"	128	= 3	"

Thus of 200 lbs. of cleaned fish, after a pressure of 312 hours, is reduced to 128 lbs., or 36 per cent moisture extracted by this process. This seems sufficient to establish the fact that in this way enough moisture can be extracted by simple and cheap means to secure the fish against damage at times when drying under the ordinary process would be impossible.

This method could be employed with great advantage by fishermen at the places of catch, as the moisture could be removed from the fish continuously and quite independent of weather. They could then be placed in piles and the first fine day taken advantage of for the final drying.

For fish which have been cured by Mr. Thompson's experiment, six hours in the sun should suffice for the United States market, and from 24 to 48 hours to render them suitable for the Brazil markets, where hard and very dry fish are required.

Mr. Thompson intends to continue his experiments on a larger scale to enable him to make the final test of sales in foreign markets, when a further report will be made, and if successful, a bulletin will be issued by this department.

The different experiments were inspected by experienced fish merchants, who have certified that in their opinion the extraction of 30 per cent will secure the fish from damage until suitable weather offers for their final drying by exposure to sun and air, for the removal of the remaining 10 per cent to 15 per cent. This they consider would not require more than from 6 to 48 hours of good drying weather, according to the market for which the fish are intended.

STEAM-COMPRESSED CODFISH.

Lately, a company was organized in Halifax for the manufacture or preparation of steam-compressed codfish. This process is thus described:—

The fish are taken into a cellar where they are skinned and thoroughly washed. The skins, fins and tails are utilized in the manufacture of glue. The fish are then brought to the top story, where they are cooked by steam in compartments. Next, the bones are all taken out and the fish passed through blanketed rollers under which process the moisture is all extracted. Then, they pass through the "shredder" on the third floor, where they are reduced to a fiber, having the appearance of fine wool Thence, by means of an endless band, the fish passes to the dry box, where it is partially dried by steam and fan blast. From this box it descends through a shute to a large drying drum on the second floor, where the drying process is completed. After remaining in this drum heated 120°, almost an hour, it is retaken by bucket belts to the floor above, and packed by machinery into one pound cardboard packages.

These pasteboard boxes are lined with wax paper so as to render them impervious to moist air. These packages are labelled after the style of a lobster can and shipped in cases containing 40 lbs. each. The pasteboard packages are made by machinery in the building.

The advantages claimed are that the fish is cheaper than other fish. Each pound package of steam-compressed cod is equal to more than three pounds of ordinary green salted or boneless fish, and to more than two pounds of ordinary dry fish. The consumer gets nothing but fish; the very essence of fish; all ready for eating. It is more convenient for consumption, as it can be prepared quicker than any other article of diet. It is most convenient for ship's stores and for shipment. All the nutrition in the fish is retained. It is the cheapest fish in the market. It is the most compact and cheapest for transportation, and having the great advantage of not being affected by climatic changes, as other salt fish are.

THE MACKEREL FISHERY.

The gradual but steady decline in the yield of this great industry is perhaps in no way better shown than by the enormous decrease in the higher grades of the marketable fish. The quantity of No. 1 mackerel placed upon the market has diminished in a most alarming manner, while the total catch shows a large falling off, even with the assistance of the deadly purse-seine, when compared with the catch obtained prior to the introduction of that destructive engine.

There is no longer any question of doubt regarding the impending danger to this important fishing industry as pursued for years past, and the popular fallacy as to the inexhaustibility of fish in the sea has long ago been demonstrated.

As far back as 1872 the late Professor Spencer F. Baird, in a report on the condition of the sea fisheries of the south coast of New England, expressed on this point the following views:—

A few years ago in view of the enormous abundance of fish originally existing in the sea, the suggestion of a possible failure would have been considered idle; and the fisheries have been managed without reference to the possibility of a future exhaustion. * * * * * *

The object of those engaged in the fisheries has been to obtain the largest supply in the shortest possible time, and this has involved more or less of waste, and in some cases reckless destruction of the fish.

It was stated in a report of a Committee on the fisheries of the United States Senate, 1886:—

Although it is contended by some scientists that all that man can do will have no appreciable effect in depleting the ocean of fish, it is believed by many that the unrelenting pursuit mentioned above has a tendency to deflect them from their course or to prevent many from returning in subsequent years. This latter fact may account for the diminished percentage of No. 1 mackerel.

Lieutenant Gordon, R.N., in his report for 1890 said:—

Theorists may talk about the rise and decadence of deep-sea fisheries being beyond the control of man, but the mackerel is not purely a deep-sea fish; it spends a greater portion of its existence near the shores, and the facts already known and stated in previous reports speak louder than any theories, and show that the mackerel fishery has been ruined on the United States coasts and greatly injured on our own by the use of the purse-seine.

Prior to the abrogation of the Fishery Articles of the Treaty of Washington, which was effected in 1885, the United States fishing fleet had the concurrent use of the Canadian inshore fisheries, and consequently a much larger number of foreign vessels resorted to the Canadian coasts.

Since the use of inshore fisheries has been denied to the United States seiners there is a falling off in the number frequenting the Canadian Atlantic coasts, although there is a large number of those vessels annually fishing off those coasts. The opportunities for poaching on the three-mile limit are of course very great, notwithstanding the efforts of the Fisheries Protection Service to check them.

For years the total fishing fleet might be stated at 250 sail, each attended by two seine boats, in all 750 craft, manœuvring within a distance of five miles from the shore, day and night. The effect upon the incoming schools of mackerel can readily be imagined.

Under the heading "General Summary of Results," Professor S. F. Baird, writes:

The general conclusions at which I have arrived as the result of my investigations of the waters on the south side of New England during 1871 and 1872, may be briefly summed up as follows:

I. The alleged decrease in the number of food fishes in these waters within the past few years has been fully substantiated.

II. The shore fishes have been decreasing during the past 20 years gradually at first, but much more abruptly from about the year 1865, the reduction by the year 1871 being so great as entirely to prevent any successful summer fishing with hook and line, and leaving to the traps and pounds the burden of supplying the markets. This statement applies also, but perhaps to a certain extent, to the blue fish. The decrease in their numbers first manifested itself about 10 years ago, and is going on quite rapidly until now.

III. This period of decrease represents the time during which the traps and pounds have been well established, their operations increasing year by year, and their catch especially in the spring being always very great.

IV. In 1871 and 1872 the decrease in the number of fish has been so great as to reduce very largely the profits derived by the traps.

THE PURSE-SEINE.

The annual report of the Department of Fisheries for the year 1890, p. lxx, publishes a paper on this fishing engine, in which it is shown that numerous and reiterated complaints had occurred against this method of capturing mackerel.

It was shown that this form of fishing engine destroyed vast and alarming numbers of young and unmerchantable fish which, at the period of their capture, represented no commercial value, but if allowed to mature, they would have assisted in maintaining the supply.

When the fish were schooling, the effect upon them was to break the schools, and by constantly keeping them on the move, rendered them wild and shy, and caused them to disappear for lengthened periods.

A description of this contrivance was quoted from the Report of Professor Brown-Goode and associates, as follows:—

The large seine used only in connection with the largest kind of seine-boat is 190 to 225 fathoms in length, and from 20 to 25 fathoms in depth when it is hung, being deeper in the centre of the bunt than at the extreme wings, one of which, the "boat end," is from 1 to 10 fathoms deep, and the other, the "dory end," varies from about 7 to 15 fathoms in depth. It is made of three kinds of twine. The bailing piece, which is a section of the net occupying about 10 or 12 fathoms along the centre of the cork line, and having about the same depth as length, is made of the strongest twine. Beneath this and composing the remainder of the bunt and extending to the bottom of the seine is a section knit of twine a size smaller. There is also a band of large twine 15 meshes in depth, extending along the cork line of the seine on either side of the "bailing piece" to the extremity of each wing. The remainder of the net is made of smaller twine.

A seine 300 fathoms in length is usually about 1,000 meshed deep, both in the bunt and in the wings. The strongest twine is placed at those points where the seine is subjected to the greatest strain. On the cork line are two or three sizes of corks, the largest being placed over the "bailing piece," the smallest generally at the ends of the wings. The cork in the middle of the seine is much larger than the rest, and is painted or covered with canvas in order that it may be easy to find the centre of the net either night or day. To one end of the cork-line at the upper corner of the wing which is first thrown out when the seine is set, is a buoy. The seine is hung to lines which are called the hanging lines. The lead line is placed as in an ordinary seine, and is weighted with sinkers about two ounces in weight, which are attached to it at intervals varying from a few inches to several feet. The arrangement of the pursing rings and bridle is described elsewhere. In a mackerel seine of 175 fathoms the bridles are about 15 to 18 feet in length, and the rings, which weigh 1½ lbs. and are three inches in diameter, are fastened to the middle of each bridle. The middle ring is on the bottom of seine, opposite the middle cork already referred to, and is usually made of different metal from the other rings, or

is larger, so that the centre of the bottom of the seine can be easily found. Small galvanized-iron blocks or pulleys are now used to a considerable extent instead of rings, and are found much better adapted for the purpose, since the purse-line runs far easier through them. The purse-line extends through the rings, its centre is marked by a line tied around or tucked through its strands, but more frequently now by a brass swivel, into which the purse-line is spliced, and which serves the double purpose of marking the centre of the line and preventing it from kinking.

He proceeds to describe the early history of the purse-seine on the authority of Captain E. J. Deblois, of Portsmouth, Rhode Island, whom he quotes as saying that so far as he knew the first purse-seine that was made was by John Tallman the first, Jonathan Brownell and Christopher Barker, in the year 1826. Its dimensions are given as 264 meshes deep and 65 fathoms long.

It would appear that the first of these engines operated north of Cape Cod was by Captain Nathaniel Adams, of Gloucester, in the schooner "Splendid," in 1850, but not until 1860 did it become general in a form similar to the present contrivance.

It has, however, in course of time been so improved in catching properties that its destruction has been greatly enhanced, more particularly so within the past three or four years.

The recent improvement in the introduction of steam seine-boats enables the schools of fish to be surrounded with great rapidity and the steam power is utilized in the operation of pursing the net, thus wonderfully increasing the effectiveness of this already too destructive contrivance.

It is a frequent occurrence that there are inclosed in one haul of a purse-seine 100 barrels of fish, and of these but a small portion are marketable. Besides the total loss of the remainder which are immature fishes, they sink to the bottom and become doubly destructive by fouling the fishing grounds when they reach a state of decay.

According to evidence recently procured by the Fisheries Department, out of twenty masters of United States fishing vessels, and ten masters of Canadian fishing vessels, fourteen of the former and nine of the latter utterly condemned the purse-seine as injurious to the fishery and the interests of the fishermen alike not only from the total loss of unmerchantable fish, (which form a large proportion of the take) but from the defilement of the waters and bottom, and the consequent diversion of the schools of fish from their accustomed haunts as well.

Mackerel will not take bait during their spawning season and, therefore, cannot be caught with the hook and line at that period, but the purse-seine takes them at all times, hence the natural protection afforded is nullified by this destructive method of fishing.

Captain John Mason, of the schooner "Pendragon," of Gloucester, forty years a mackerel fisher, says :—

All mackerel killed before the 1st of July in the Gulf are killed before spawning.

Captain John Staples, of the schooner "Vesta," of Gloucester, who had been engaged in the mackerel fishery for thirty years, stated that :—

In the North Bay, before the 1st of July, about two-thirds of the catch are female spawn mackerel, which of course are destroyed before spawning. Upon the least, I should say that more than 100 barrels are destroyed for every barrel caught before the 25th July in the North Bay.

There is another feature connected with these purse-seines which must not be lost sight of, and that is, that while fitted out for mackerel fishing, other fishes which are captured, have no commercial value under the circumstances, and are consequently thrown away. In this way immense quantities of herring are destroyed by these purse-seines in the most wanton manner, involving the improvident destruction of a valuable article of food, and at the same time the depletion of the food supply which attracts the other fishes to the shores.

In the history of the mackerel fishery by Prof. Brown-Goode and associates, an attempt to use the purse-seine in Norwegian waters is described as follows:—

In 1878 a Gloucester vessel essayed fishing for mackerel with a purse-seine on the coast of Norway. In April the schooner 'Notice,' Capt. Knud Markurson departed on this mission taking crew of 12 men and the most approved seining apparatus. It was remarked by a writer in the Duetsche Fischerei Zeitung, of July:—

"The mackerel fishermen who have till now been plying their trade in open but suitable boats, are however greatly agitated at the present moment in consequence of the arrival at Risov some three weeks ago of an American fishing smack direct from Gloucester, in North America, understood to be followed by a whole fishing fleet from New England to take part in the mackerel fishing outside the Norwegian fishing territorium. As all these American smacks are reported as provided with bag or purse-nets, by means of which they are enabled to catch more fish upon one single haul than 10 Norwegian boats during a whole day it is obvious that the Norwegian fishermen will have to discard their old mode of fishing, and to have recourse to the American fishing method, if they do not want to lose all the advantages enjoyed till now."

* * * * *

It was stated however that owing to the fact that the mackerel did not school in those waters as they did along the New England shores the seine could not be advantageously used, and the experiment proved unsuccessful.

Our mackerel fishery has been largely saved from extinction by the protection given to our inshore waters, but the restoration of its former profitable condition will be a work of years, if indeed it ever happens, unless steps are taken actively and immediately for the further preservation of the fish. It is quite true that without international agreement we cannot forbid the use of the purse-seine on the high seas, but we can forbid its use within the territorial waters of Canada; and further, if a regulation is made that no purse-seine shall be carried in a seine-boat during the close time in the said territorial waters, under a penalty of $100 for the first offence, and the same, together with the forfeiture of the seine on the second offence being proved, this regulation would involve so much handling of the seine and such trouble and anxiety to the masters that it would greatly discourage the use of the seine.

At a conference of the Dominion fishery inspectors convened at Ottawa in 1891, a motion for the prohibition of purse-seines in the territorial waters of Canada was unanimously adopted.

It is to be remembered that from April 1873, the date at which the Government of Canada anticipated the formal coming into force of the Fishery Article of the Treaty of Washington, which was fixed by proclamation 1st July 1873, until the year 1885, these highly destructive nets were operated by the United States fishing fleet in the inshore territorial waters of Canada. The destruction which followed this method of fishing is incalculable, but some insight to it can be given by a reference to the statistics of the mackerel importations into the State of Massachusetts.

STATISTICAL EVIDENCE OF DECREASE.

In order to arrive at a correct idea of the actual state of the mackerel fishing industry so far as can be shown by statistics, the following comparisons have been compiled from the 15th annual report of the Boston Fish Bureau, 1889.

These tables are designed to show that while there is a great decrease in the total quantity of mackerel taken there is a still greater one in the quality than which no cleared proof of actual decline can be adduced. Three decades are taken; the first from 1850 to 1859, during which period the purse-seine was not in use; the second from 1863 to 1872 ten years following the general introduction of the purse-seine; the third from 1880 to 1889, after the purse-seine had been continuously used for many years.

BARRELS OF MACKEREL INSPECTED.

1st Decade.

Year.	No. 1 Grade.	Total catch.
1850	88,401	242,572
1851	90,765	329,244
1852	84,030	198,120
1853	49,015	133,340
1854	30,595	135 349
1855	29,302	211,956
1856	89,333	214,312
1857	84,519	168,705
1858	75,347	131,602
1859	61,330	99,715
Total	682,637	1,864,915
Yearly average	68,263	186,491

2nd Decade.

Year.	No. 1 Grade.	Total catch.
1863	67,985	306,943
1864	103,383	274,357
1865	153,723	256,796
1866	150,332	231,696
1867	122,808	210,314
1868	93,091	180,056
1869	72,924	234,210
1870	66,016	318,521
1871	105,187	257,416
1872	71,866	181,856
Total	1,007,345	2,454,265
Yearly average	100,734	245,426

3rd Decade.

Year.	No. 1 Grade.	Total catch.
1880	20,453	243,958
1881	15,598	256,173
1882	39,045	258,382
1883	20,852	154,140
1884	22,377	283,794
1885	15,742	215,576
1886	19,574	66,042
1887	23,893	77,488
1888	14,545	50,907
1889	7,143	12,143
Total	198,222	1,618,603
Yearly average	19,822	161,860

These figures reveal a most alarming decrease in the total catch of mackerel, and especially so in that of No. 1 grade, for during the first decade, without the assistance of this improved and destructive method of catching fish, the take was very large, being 1,864,915 barrels, or an average of 186,491, while of this quantity there was of No. 1 quality 682,637 barrels, an average of 68,263 barrels per annum.

The next decade covers a period almost immediately following the general introduction of purse-seines and, as is to be expected, shows an increased catch, the total take being 2,454,265, an average of 245,429 barrels per annum, while of No. 1 quality the catch was 1,007,345, a yearly average of 100,734 barrels. This productive state, however, could not long obtain, as the fish could not withstand the enormous drain upon its marketable and immature product by the destructive purse-seine.

The last decade, which comes down to the year 1889, after about 20 or 30 years' use of purse-seines, shows that notwithstanding the improvements of late years to enhance their effectiveness, a deplorable decline in the catch has taken place, for we find a total catch of only 1,618,603 barrels and an anual average of 161,860 barrels, and of No. 1 grade a total of 198,222, a yearly average of but 19,822 barrels.

SUMMARY.

Years.	Total Catch.	Yearly Average.	No. 1. Quality.	Yearly Average.
1850-59	1,864,915	185,491	682,637	68,263
1863-72	2,454,265	245,426	1,007,345	100,734
1880-89	1,618,603	161,860	198,222	19,822

Comparing the catch of the later decade with the aid of its perfected and destructive fishing engines, with that of the first decade, with its primitive modes of capture, an annual average decline in the total catch of mackerel of 23,631 barrels, and in catch of No. 1 grade of 48,441 barrels appears.

Following the testimony taken before a Committee of the United States Senate in June, 1886, a report to accompany Bill H. R. No. 5538, set forth that an alarming decrease in the better grades of mackerel had taken place.

The following may be quoted :—

The average yearly catch in the amounts for the years from 1809 to 1872 inclusive, was 166,184 barrels. The average yearly catch from 1872, the time the purse-seines came into general use to 1885 inclusive, was 201,204 barrels.

It will be seen that the average annual amount caught for the last 13 years is only about 20 per cent greater than for the 64 years, from 1809 to 1872, notwithstanding the improved appliances which should have insured a vast increase in the catch, stimulated as the business has been by a greatly increased demand from a rapidly increasing population and improved methods of distribution.

Far more to be deprecated than the deficient catch has been the deterioration in quality, as shown by the decrease in percentage of No. 1's.

In 1865 No. 1 mackerel was 59 per cent of the whole catch ; in 1866 it was 64 per cent; in 1867 it was 58 per cent ; in 1868 it was 51 per cent ; in 1869 it was 31 per cent; in 1870 it was 21 per cent; in 1871 it was 40 per cent; in 1872 it was 40 per cent ; in 1873—the year that seines became generally used—it was 45 per cent ; in 1874 it was 44 per cent; in 1875 it ran down to 25 per cent; in 1876 it was only 14 per cent; in 1877 it was 17 per cent; in 1878 it was 9 per cent ; in 1879 it was 6 per cent; in 1880 it was 8 per cent; in 1881 it was 6 per cent; in 1882 it was 15 per cent; in 1883 it was 14 per cent; in 1884 it was 8 per cent, and finally in 1885 it was 7 per cent.

REMEDIAL MEASURES.

The continued use of so destructive a fishing engine that had been improved until it had reached the limit of its destruction, would unquestionably bring within a measurable space of time the utter exhaustion of the valuable mackerel fishery, and with the evidence before them of the depletion of their own fisheries and the knowledge that their fishermen had for many years being seeking the fishing grounds of a foreign country, it is not surprising that the United States Government awoke, although tardily, to the necessity for some prompt measures to arrest and if possible to overcome the inevitable ruin of the industry.

It is interesting to notice from the report of Professor Brown-Goode and associates, that as early as the 16th century a failure in the mackerel fishery was apprehended.

In 1660 the Commissioners of the United Colonies attempted the regulation of the fishery.

In 1670 early mackerel fishing was prohibited by the laws of the Plymouth Colony.

In 1684 the prohibition of seining was effected "in any part of the Colony.'

In 1692 the prohibitory law of Massachusetts was repealed.

In 1692 an Act was passed prohibiting seining before 1st July.

In 1702 the prohibitory law was re-enacted.

In 1838-9 protests against "jigging" were entered.

In 1859 the use of seines was protested against.

And in 1870-82 protests against the use of purse-seines were made.

In 1879 the Department of Marine and Fisheries issued a public notice calling attention to the provisions of the Fisheries Act, as follows :—

CANADIAN INSHORE FISHERIES.

DEPARTMENT OF MARINE AND FISHERIES,
FISHERIES BRANCH, OTTAWA, 6th June, 1879.

Public notice, and particularly the attention of deep-sea and inshore fishermen, is directed to the following provisions of the Statute 31 Vic., chap. 60, known as the Fisheries Act, passed on the 22nd May, 1868:—

1. *Section* 14: Prohibits the throwing overboard or leaving of dead or decaying fish, or remains of offals of fish, or other marine animals, within any water where fishing is carried on, or upon any fishing bank; also forbids leaving the same in any net or other fishing apparatus.

2. *Section* 14, *subsection* 2: Provides that dead or decaying fish, or any other deleterious substance, shall not be drawn into, or allowed to pass into, or be left, or remain in any water frequented by any kinds of fish mentioned in the fishery laws.

3. *Section* 13, *subsection* 7: Bag-nets and trap-nets and fish-pounds are prohibited, excepting under special licenses.

Besides the fines imposed by said Statute, any offender against the fishery laws is liable to the forfeiture of the nets, materials, implements or appliances used in connection with the offence.

Fishery officers may seize upon their own view, or on complaint, any fishing gear subject to confiscation, and fine offenders forthwith.

British and foreign fishermen alike are required to conform to the Canadian fishery laws.

It having been established in evidence that certain kinds of nets used for mackerel and other fish, are fished in contravention of the fishery laws, by destroying quantities of small fish, besides mature fishes which are thrown away dead or dying, or are left to decay on the fishing grounds, or within the inshore waters; the fishery officers are instructed to strictly enforce the fishery laws passed to prevent such illegal and injurious practices.

They are also instructed that British subjects, when fishing in British waters, are bound to conform in every respect to the Canadian fishery laws, and that foreigners fishing within three miles of the coasts of Canada, under treaties, in common with British subjects, are required to do so in conformity with the fishery laws which govern the operations of British fishermen.

By order,
W. F. WHITCHER,
Commissioner of Fisheries.

The Legislature of the State of Maine in the year 1833, passed an Act for the protection of migratory fish, prohibiting the use of the purse and drag-seines for taking mackerel within any bay or inlet, not more than two miles wide, under a maximum penalty of $200 (*Revised Statutes of Maine*, '83, *sec.* 17, *c.* 40, *p.* 373) and later on, in 1885, this Act was amended to include bays three miles wide, and the extreme penalty increased to $500, making the Statute read as follows:—

Sec. 17. The taking of mackerel, herring, shad, porgies or menhaden, and the fishing therefor by the use of purse and drag-seines is prohibited in all small bays, inlets, harbours or rivers, where any entrance to the same, or any part thereof, from land to land, is not more than three nautical miles in width, under a penalty upon the master or person in charge of such seines, or upon the owners of any vessel or seines employed in such unlawful fishing of not less than $300, or more than $500, to be recovered by indictment, or action of debt, one-fourth of the penalty to the complainant or prosecutor, and three-fourths to the county in which the proceedings are commenced, and there shall be a lien upon the vessels, steamers, boats and apparatus used in such unlawful pursuit until said penalty, with costs of prosecution is paid, but a net for meshing mackerel or porgies, of not more than 100 meshes in depth, and a net for meshing herring of not more than 170 meshes in depth, and a net for meshing shad of not more than 75 meshes in depth shall not be deemed a seine. (*Acts and Resolves of the State of Maine*, 1885, *c.* 261, *p.* 215.)

The inquiry of the United States Senate Committee in 1886 resulted in the passage of an Act which provided protection of a partial nature. This Act was as follows:—

An Act relating to the importing and landing of mackerel caught during the spawning season.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That for the period of five years, from and after the 1st day of March, 1888, no mackerel, other than what is known as Spanish mackerel, caught between the 1st day of March and the 1st day of June, inclusive of each year, shall be imported into the United States or landed upon its shores. Provided, however, that nothing in this Act shall be held to apply to mackerel caught with hook-and-line from boats, and landed in said boats, or in traps and weirs connected with the shore.

Sec. 2. That section 4321 of the Revised Statutes is amended for the period of five years aforesaid, so as to read before the last sentence as follows:—"This license does not grant the right to fish for mackerel, other than for what is known as Spanish mackerel, between the 1st day of March and the 1st day of June, inclusive of this year. Or in lieu of the foregoing there shall be inserted so much of said period of time as may remain unexpired under this Act."

Sec. 3. That the penalty for violation or attempted violation of this Act shall be forfeiture of license on the part of the vessel engaged in said violation, if a vessel of this country, and the forfeiture to the United States, according to law, of the mackerel imported or landed, or sought to be imported or landed.

Sec. 4. That all laws in conflict with this law are hereby repealed.

(Approved, 28th February, 1887.)

In May, 1892, a Bill, having for its chief purpose the authorizing of any citizen of the United States to take menhaden and mackerel with purse-seines in all navigable waters within the jurisdiction and control of the United States was adversely reported upon by the Senate, on the ground that the State Governments had jurisdiction over their respective fisheries. (Report 1350, 52 Congress, 1st Sess.)

On the 22nd May, 1890, the Canadian Government asked that the United States Government might be communicated with through Her Majesty's Government with a view to obtaining some international legislation looking either to the prohibition of or restriction of the use of the purse-seines in the mackerel fishery, in order that for the general good the impending danger to this valuable industry might be averted.

The Secretary of State for the United States expressed his willingness to give the subject his careful consideration, but nothing has been done beyond the inclusion of this subject for discussion at the fish conference which may take place at no distant day between Canada and United States.

Having thus shown the decadence of the fishery on the North American coasts from pelagic fishing, begun so long ago, with its constantly increasing fleet of vessels, and improving methods of capture, it is now in point to inquire into the possibility of its restoration.

It will be seen that the steps which have been taken were in the right direction. That the withdrawal of the American fleet from the immediate Canadian inshore fisheries owing to the termination of the Fishery Articles of the Treaty of Washington, has had a beneficial effect is clearly evidenced from the fact that the percentage of fish taken by the Canadian fishermen within the territorial jurisdiction largely exceeded in 1891 that of 1885. Thus showing that without the prohibition of purse-seines, but the mere withdrawal of the American portion of them from the

inshores although operated outside the territorial limit, has been sufficient to reveal that provident regulations are capable of restoring the mackerel fishery.

In his report for 1889, at p. 8, Lieut. A. R. Gordon, R. N., says of the mackerel fishery :—

In Canada the fishing has remained about the same as last year, and the prospects are encouraging to this extent, that large quantities of small fish have been seen during the latter part of the season, which if not destroyed in purse-seines before reaching merchantable age, will go a long way towards restoring our fishery to its normal condition of late years, if not to its former degree of plenteousness.

The correctness of this argument is demonstrated by the increased catches of 1890 and 1891, which yielded respectively $1,524,976 and $1,969,571, as against $930,396 in 1889.

Lieut. Gordon further states :—

Many of the masters of United States fishing vessels admit that the unrestrained use of the purse-seine has ruined the mackerel fishery, but some of them being part owners of vessels and gear are indisposed to support a measure, the passage of which would practically wipe out a portion of their capital for a time. In Canada the sum invested in these seines is comparatively small, and I do not think that there would be any real opposition from Canadians to the enactment of the proposed laws for the protection of the mackerel. In fact, I consider that continued comparative productiveness of the Canadian mackerel fishing grounds as compared with those on the New England coasts is largely due (1) to the protection afforded to fishermen, by securing the inshore fishing grounds from molestation and continual harassment by a large fleet of foreign fishermen, thus affording the fish an area in which to spawn comparatively undisturbed; and (2) to the fact that Canadian fishermen have not so extensively adopted the use of the purse-seine as a means of capture.

The report of Robert Hockin, inspector of fisheries for District No. 2, of Nova Scotia, in his report for 1890, said of mackerel :—

There is a gratifying increase in the value of the fish as shown by these returns. The fish taken were of excellent quality, and much better prices obtained than formerly.

Inspector J. R. Kinney, of District No. 3, Nova Scotia, in his report for 1890, said :—

A year ago I thought that these fish were deserting our inshores, but appearances were misleading, as the past year's catch exceeds that of 1889 by so large a quantity that the excess closely approaches $400,000 in value, thus saving this district from a deficit in the total yield.

* * * * *

Inspector Pratt of District No. 1, New Brunswick, in his report for 1890, says under the heading of "*Mackerel*" :—

The reappearance of this fish in the Bay of Fundy after such a lengthened absence was a surprise to our fishermen, and no time was lost in their earnest endeavours to capture as many as possible. They were principally of the kind known as 3's, although some schools captured were classed as number 2's. A large number of schools were met in all parts of the Bay of Fundy, and our fishermen were highly pleased with the hauls they managed to make.

* * * * *

Inspector Hackett, of Prince Edward Island, in his report for 1890, speaking of mackerel, said :—

The mackerel fishery was prosecuted with vigour, and it is pleasing to notice an increase of 4,387 barrels. Fishing commenced early, some fish of large size being

taken near Souris towards the end of May. * * Fishing with seines was prosecuted to any extent. Mackerel did not school as in former years, and seining had to be abandoned for the more primitive hook and line fishery. * * *

The decline in this fishery has been very rapid, and as a consequence those interested are becoming alarmed and ask that some restriction be placed upon the use of seines and nets. The slight improvement this season indicates a favourable change, and another year may show even better results.

Lieut. Gordon, R.N., in his report for 1890, said :—

The mackerel fishery of 1890, within the territorial waters of Canada was very much more productive than in the season of 1889.

* * * * * * *

In Nova Scotia the fish showed on the western shore; throughout the summer the fishery was more successful than for some years and gives evidence of at least a partial recovery, which it is to be hoped may be permitted to continue.

* * * * * * *

The fishery in Canadian waters has this year improved somewhat, and if not destroyed will, I think, continue to do so. Large masses of small fish were seen this year, and bodies of adult fish appeared at places where for some seasons none have been taken. * * ° *

Inspector Hockin, District No. 2, Nova Scotia, in his report for 1891, says :—

Mackerel, notwithstanding that the schedule prices have been reduced one dollar per barrel show an increase of $29,000, and if valued the same as last year, the increase would have been $52,000, or about 15 per cent.

Inspector J. R. Kinney, of District No. 3, Nova Scotia in 1891, reported :—

These fish have wonderfully helped to swell the total value of the past year's products, as notwithstanding the falling off in price the increased total value amounts to $326,000 and the excess in the catch to 24,000 barrels.

Inspector Pratt, of Division No. 1, New Brunswick, reported in 1891 :—

The increased numbers of mackerel which schooled in the Bay of Fundy during the past season as compared with 1890, has caused many of our fishermen to rejoice. Most of the mackerel taken were of better quality and of larger size than those of last year, and the prices paid for them were fair. * * *

Inspector Chapman, of District No. 2, New Brunswick, adds his testimony to the increase of mackerel during 1891 in the following words:—

These fish are very abundant on our coasts, yielding a catch about 6 times larger than that of last year, and this with very little preparation on the part of the fishermen.

Inspector Ed. Hackett, of Prince Edward Island, in 1891 reported as follows :—

There is nothing special to note in connection with this fishery; the catch being only slightly in advance of last year. * * * *

The Act passed at the last session of Parliament prohibiting the use of purse-seines in our territorial waters, is favourably viewed by almost all parties interested, and it is hoped that further action will be taken shortly to restrict the use of gill-nets in the mackerel fishery.

In his report for 1891, Lieut. Gordon, R.N., states :—

The mackerel fishery of this year was, so far as Canadian waters are concerned, a very fairly successful one, and on the coast of the United States this fishery exhibited some signs of improvement, large numbers of small and immature fish having been taken there during the season.

* * * * * *

The total catch made in all waters by United States vessels was 35,528 barrels, being more than double the quantity taken last year, and if from this amount we substract the amount taken off the Canadian coasts it leaves 28,704 barrels as the mackerel product of the waters of the New England coasts, which last year, though

fished by a larger fleet, only produced 7,697 barrels, thus showing a marked improvement of the fishery in these waters.

* * * * * *

The improvement in the fishery is quite marked, and an examination of the facts gives great strength to the contention that the temporary abolition of purse-seining has been very beneficial.

There can be little doubt that this cheering evidence of an ameliorated condition of the mackerel fishery noticeable so soon after the withdrawal of the United States fleet from the Canadian inshore fisheries, and the partial regulations against purse-seines involving as it does the protection of the fish during at least a portion of the spawning season, is indicative of the practicability of a restoration of the mackerel fishery by a rigid and economic protection of those fish within the 3-mile territorial belt. Although the pernicious practice of purse-seining may be carried on to a greater or lesser extent outside the territorial waters of Canada, the marked improvement noticeable after so short a period of protection affords ample justification for the belief that a continuance of the present remedial measures and the adoption of others which may suggest themselves from time to time will result in the ultimate benefit of the world at large (so far as the mackerel supply is concerned) and certainly to that of the American continent.

Unquestionably, were it possible by international and concurrent action to entirely prohibit the capture of mackerel on the Atlantic coasts outside the territorial jurisdiction of either country by a method which has been shown to be of so destructive and improvident a character, the fishery would correspondingly benefit thereby, but while such a course might commend itself on the ground of expediency, it is not at all certain that it is an absolute necessity in the light of the experience gained by the protection of the fish within the recognized territorial waters.

Indeed everything points to the entire success in reviving this fishery of reasonable concurrent protection by the respective governments of the breeding fish and a prohibition of the baneful purse-seine in the territorial waters.

A judicious pursuit of this fishery on the shore line by a less destructive kind of net which itself may later on require restriction and by the hand line method to which it has been shown the fishermen of both countries have reverted, will ensure profitable results while it will at the same time, it is believed, afford ample protection to the fishery.

The fact that mackerel cannot be taken with the hook and line during the spawning season, affords a natural protection that will enable them to withstand any degree to which this method of fishing may be carried, for while it cannot destroy the breeding fish, neither can it break up the schools in like manner as with the purse-seines. Thus the two great factors in the decrease of this valuable fishery are overcome.

The late Professor T. F. Baird said:—

The principle may be safely considered as established that line fishing, no matter how extensively prosecuted will never materially affect the supply of the fish in the sea. As a general rule fish when engaged in the function of reproduction, will not take the hook, whatever be their abundance; but, as soon as the critical season has passed they feed voraciously and then can be readily caught by skilled fishermen.

The presence of such quantities of small fish which have been seen during the past two years in so many localities establishes this, as it clearly shows that the

fish have had an opportunity of performing the functions of reproduction and that the vast quantities of spawn which hitherto had annually been destroyed by the capture of the parent breeding fish has to a large extent been saved to the fishery to work its restoration.

THE BEHRING SEA QUESTION.

A concise review of the various phases of this question was published in the Annual Report of the Department of Fisheries for the year 1891, and to afford an opportunity for convenient reference, the subject is now taken up at the point reached by that review:

BEHRING SEA COMMISSIONERS.

This was an enquiry into seal life by a Joint Commission of Experts. The British members returned to Victoria, B.C., on the 8th October, 1891.

They subsequently visited Washington, where a conference with their colleagues appointed by the United States Government took place.

This report is at present of a confidential character, and is designed for use before the arbitrators under the Behring Sea Convention. It has not, however, been made public.

TERMS OF REFERENCE TO ARBITRATION.

Throughout the fall of 1891 and spring of the present year, considerable correspondence took place between the Government of Her Britannic Majesty and that of the United States on the subject of the terms of reference to the Arbitration Tribunal.

TREATY.

Eventually, however, an agreement was effected, which resulted in the Treaty signed at Washington on the 29th February, 1892. The text of this Treaty is as follows:—

TREATY BETWEEN GREAT BRITAIN AND THE UNITED STATES OF AMERICA—ARBITRATION RESPECTING THE SEAL FISHERIES IN BEHRING SEA, SIGNED AT WASHINGTON, FEBRUARY 29, 1892.

[*Ratifications exchanged at London, May* 7, 1892.]

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland and the United States of America, being desirous to provide for an amicable settlement of the questions which have arisen between their respective Governments concerning the jurisdictional rights of the United States in the waters of Behring Sea, and concerning also the preservation of the fur-seal in or habitually resorting to the said sea, and the rights of the citizens and subjects of either country as regards the taking of fur-seal in or habitually resorting to the said waters, have resolved to submit to arbitration the questions involved, and to the end of concluding a Convention for that purpose have appointed as their respective Plenipotentiaries:

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Sir Julian Pauncefote, G.C.M.G., K.C.B., Her Majesty's Envoy Extraordinary and Minister Plenipotentiary to the United States; and the President of the United States of America, James G. Blaine, Secretary of State of the United States;

Who, after having communicated to each other their respective full powers, which were found to be in due and proper form, have agreed to and concluded the following articles:—

Article I.

The questions which have arisen between the Government of Her Britannic Majesty and the Government of the United States concerning the jurisdictional

rights of the United States in the waters of Behring Sea, and concerning also the preservation of the fur-seal in or habitually resorting to the said sea, and the rights of the citizens and subjects of either country as regards the taking of fur-seal in or habitually resorting to the said waters, shall be submitted to a Tribunal of Arbitration, to be composed of seven arbitrators, who shall be appointed in the following manner, that is to say: two shall be named by Her Britannic Majesty; two shall be named by the President of the United States; His Excellency the President of the French Republic shall be jointly requested by the High Contracting Parties to name one; His Majesty the King of Italy shall be so requested to name one; and His Majesty the King of Sweden and Norway shall be so requested to name one. The seven arbitrators to be so named shall be jurists of distinguished reputation in their respective countries; and the selecting Powers shall be requested to choose, if possible, jurists who are acquainted with the English language.

In case of the death, absence, or incapacity to serve of any or either of the said arbitrators, or in the event of any or either of the said arbitrators omitting or declining or ceasing to act as such, Her Britannic Majesty, or the President of the United States, or His Excellency the President of the French Republic, or His Maesty the King of Italy, or His Majesty the King of Sweden and Norway, as the case may be, shall name, or shall be requested to name forthwith, another person to act as arbitrator in the place and stead of the arbitrator originally named by such head of a State.

And in the event of the refusal or omission for two months after receipt of the joint request from the High Contracting Parties of His Excellency the President of the French Republic, or His Majesty the King of Italy, or His Majesty the King of Sweden and Norway, to name an arbitrator, either to fill the original appointment or to fill a vacancy as above provided, then in such case the appointment shall be made or the vacancy shall be filled in such manner as the High Contracting Parties shall agree.

Article II.

The arbitrators shall meet at Paris within twenty days after the delivery of the counter-cases mentioned in Article IV., and shall proceed impartially and carefully to examine and decide the questions that have been or shall be laid before them as herein provided on the part of the Governments of Her Britannic Majesty and the United States respectively. All questions considered by the Tribunal, including the final decision, shall be determined by a majority of all the arbitrators.

Each of the High Contracting Parties shall also name one person to attend the Tribunal as its agent to represent it generally in all matters connected with the arbitration.

Article III.

The printed case of each of the two parties, accompanied by the documents, the official correspondence, and other evidence on which each relies, shall be delivered in duplicate to each of the arbitrators and to the agent of the other party as soon as may be after the appointment of the members of the Tribunal, but within a period not exceeding four months from the date of the exchange of the ratifications of this Treaty.

Article IV.

Within three months after the delivery on both sides of the printed case, either party may, in like manner, deliver in duplicate to each of the said arbitrators, and to the agent of the other party, a counter-case, and additional documents, correspondence, and evidence, in reply to the case, documents, correspondence, and evidence so presented by the other party.

If, however, in consequence of the distance of the place from which the evidence to be presented is to be procured, either party shall, within thirty days after the receipt by its agent of the case of the other party, give notice to the other party that it requires additional time for the delivery of such counter-case, documents, correspondence, and evidence, such additional time so indicated, but not exceeding sixty days beyond the three months in this article provided, shall be allowed.

If in the case submitted to the arbitrators either party shall have specified or alluded to any report or document in its own exclusive possession, without annexing a copy, such party shall be bound, if the other party thinks proper to apply for it, to furnish that party with a copy thereof; and either party may call upon the other, through the arbitrators, to produce the originals or certified copies of any papers adduced as evidence, giving in each instance notice thereof within thirty days after delivery of the case; and the original or copy so requested shall be delivered as soon as may be, and within a period not exceeding forty days after receipt of notice.

Article V.

It shall be the duty of the agent of each party, within one month after the expiration of the time limited for the delivery of the counter-case on both sides, to deliver in duplicate to each of the said arbitrators and to the agent of the other party a printed argument showing the points and referring to the evidence upon which his Government relies, and either party may also support the same before the arbitrators by oral argument of counsel; and the arbitrators may, if they desire further elucidation with regard to any point, require a written or printed statement or argument, or oral argument by counsel, upon it; but in such case the other party shall be entitled to reply either orally or in writing, as the case may be.

Article VI.

In deciding the matters submitted to the arbitrators, it is agreed that the following five points shall be submitted to them, in order that their award shall embrace a distinct decision upon each of said five points, to wit:—

1. What exclusive jurisdiction in the sea now known as the Behring Sea, and what exclusive rights in the seal fisheries therein, did Russia assert and exercise prior and up to the time of the cession of Alaska to the United States?

2. How far were these claims of jurisdiction as to the seal fisheries recognized and conceded by Great Britain?

3. Was the body of water now known as the Behring Sea included in the phrase "Pacific Ocean," as used in the Treaty of 1825 between Great Britain and Russia; and what rights, if any, in the Behring Sea, were held and exclusively exercised by Russia after said Treaty?

4. Did not all the rights of Russia as to jurisdiction and as to the seal fisheries in Behring Sea east of the water boundary, in the Treaty between the United States and Russia of the 30th March, 1867, pass unimpaired to the United States under that Treaty?

5. Has the United States any right, and, if so, what right, of protection or property in the fur-seals frequenting the islands of the United States in Behring Sea when such seals are found outside the ordinary 3-mile limit?

Article VII.

If the determination of the foregoing questions as to the exclusive jurisdiction of the United States shall leave the subject in such position that the concurrence of Great Britain is necessary to the establishment of regulations for the proper protection and preservation of the fur-seal in, or habitually resorting to, the Behring Sea, the arbitrators shall then determine what concurrent regulations outside the jurisdictional limits of the respective Governments are necessary, and over what waters such regulations should extend, and to aid them in that determination, the report of a Joint Commission, to be appointed by the respective Governments, shall be laid before them, with such other evidence as either Government may submit.

The High Contracting Parties furthermore agree to co-operate in securing the adhesion of other Powers to such regulations.

Article VIII.

The High Contracting Parties having found themselves unable to agree upon a reference which shall include the question of the liability of each for the injuries alleged to have been sustained by the other, or by its citizens, in connection with

the claims presented and urged by it; and, being solicitous that this subordinate question should not interrupt or longer delay the submission and determination of the main questions, do agree that either may submit to the arbitrators any question of fact involved in said claims and ask for a finding thereon, the question of the liability of either Government upon the facts found to be the subject of further negotiation.

Article IX.

The High Contracting Parties having agreed to appoint two Commissioners on the part of each Government to make the joint investigation and report contemplated in the preceding article VII., and to include the terms of the said agreement in the present Convention, to the end that the joint and several reports and recommendations of said Commissioners may be in due form submitted to the arbitrators, should the contingency therefore arise, the said agreement is accordingly herein included as follows:—

Each Government shall appoint two Commissioners to investigate, conjointly with the Commissioners of the other Government, all the facts having relation to seal-life in Behring Sea, and the measures necessary for its proper protection and preservation.

The four Commissioners shall, so far as they may be able to agree, make a joint report to each of the two Governments, and they shall also report, either jointly or severally, to each Government on any points upon which they may be unable to agree.

These reports shall not be made public until they shall be submitted to the arbitrators, or it shall appear that the contingency of their being used by the arbitrators cannot arise.

Article X.

Each Government shall pay the expenses of its members of the Joint Commission in the investigation referred to in the preceding article.

Article XI.

The decision of the tribunal shall if possible, be made within 3 months from the close of the argument on both sides.

It shall be made in writing and dated, and shall be signed by the arbitrators who may assent to it.

The decision shall be in duplicate, one copy whereof shall be delivered to the agent of Great Britain for his Government, and the other copy shall be delivered to the agent of the United States for his Government.

Article XII.

Each Government shall pay its own agent and provide for the proper remuneration of the counsel employed by it and of the arbitrators appointed by it, and for the expense of preparing and submitting its case to the Tribunal. All other expenses connected with the arbitration shall be defrayed by the two Governments in equal moieties.

Article XIII.

The arbitrators shall keep an accurate record of their proceedings, and may appoint and employ the necessary officers to assist them.

Article XIV.

The High Contracting Parties engage to consider the result of the proceedings of the Tribunal of Arbitration as a full, perfect, and final settlement of all the questions referred to the arbitrators.

Article XV.

The present Treaty shall be duly ratified by Her Britannic Majesty and by the President of the United States of America, by and with the advice and consent of

he Senate thereof; and the ratifications shall be exchanged either at Washington or at London within six months from the date hereof, or earlier if possible.

In faith whereof, we, the respective Plenipotentiaries, have signed this Treaty, and have hereunto affixed our seals.

Done in duplicate, at Washington, the 29th day of February, 1892.

(LS.) JULIAN PAUNCEFOTE.
(LS.) JAMES G. BLAINE.

EXPIRATION OF MODUS VIVENDI, 1891.

As the *modus vivendi* arrangement entered into between the two Governments was to expire in May, 1892, considerable uncertainty was felt by the sealers as to the length and extent of their voyages.

PREPARATION BY SEALERS FOR DEPARTURE.

In the month of January the sealing fleet made preparations for the season's operations, and the hunters and seamen after having been in port for some months began to get uneasy to depart. The masters and owners were naturally most anxious to secure the services of the best men for their crews, which resulted in the hastening of the departure of many of the vessels in order to secure their crews and keep them together.

The vessels which clear early on their voyages proceed south, whence they follow the seals northward into Behring Sea.

VESSELS DEPARTED WITHOUT KNOWLEDGE OF POLICY.

It will thus be seen that many of the vessels had cleared on their voyages without, as it is alleged, any knowledge of the policy to be pursued with regard to Behring Sea after the lapse of the *modus vivendi*, while many others were speculating thereon to determine the length of their voyages and their requirements regarding crews.

NOTIFICATION OF LIABILITY TO INTERRUPTION.

On the 18th March, however, a telegraphic despatch was received from the Colonial Office stating that as a settlement of the question had been agreed upon by arbitration, both Governments had made proposals for intermediate regulations restraining the catch of seals in Behring Sea in the event of ratification of the Treaty; and that sealers should be notified of their liability to interruption if they entered the waters in question.

The following is a copy of the despatch :—

Lord Knutsford to Lord Stanley, 18th March, 1892. Please direct the proper port authority at all harbours on the Pacific Coast to inform owners who are clearing or have cleared this year for Behring Sea that Her Majesty's Government and the United States Government have agreed, subject to the ratification of the Senate, to submit to arbitration the question whether sealers have a right of the United States to seal in the eastern half of Behring Sea to the east of the Russian line, and that it is possible the sentence of the said tribunal may be given within the present fishing season. Moreover, that both the United States Government and Her Majesty's Government have made propositions for intermediate regulations restraining the catch of seals in the said waters in case the said arbitration agreement should be ratified. Neither the arbitration agreement nor any intermediate agreement have been yet definitely adopted between the two Governments, and whether they are adopted, and on what date, is necessarily a matter of uncertainty; but notice is hereby given to all sealers proposing to seal in the said waters that they do so at their own risk, and after warning of the liability to interruption to which they may be exposed in consequence of the said agreement.

Immediately on the receipt of this despatch measures were taken by the Customs Department to notify, through the collectors of customs, the masters of all sealing vessels clearing from their respective ports, in accordance with the despatch above quoted.

The following is a copy of the circular sent to the collectors:—

CUSTOMS DEPT., OTTAWA, March 19, 1892.

To Collector of Customs,
Port of ———————

I have the honour to hand you herewith a copy of a telegraphic despatch from Lord Knutsford, Colonial Secretary, London, to His Excellency the Governor General, Ottawa, bearing date the 18th instant, requesting that the proper port authority at all harbours on the Pacific Coast, be directed to inform owners of vessels clearing, or which have cleared, this year for Behring Sea, that Her Majesty's Government and the United States Government have agreed to submit to arbitration the question whether sealers have a right of the United States to seal in the Behring Sea to the east of the Russian line; that both the Governments have made propositions for intermediate regulations restraining the catch of seals in the said waters in case the arbitration agreement should be ratified, and that notice be given to all sealers proposing to seal in the said waters that they do so at their own risk, warning them of the liability to interruption to which they may be exposed in consequence of the said agreement.

You will, therefore, take prompt and efficient action in the premises and see that the masters and owners of vessels clearing this season from your port, or from any place under the survey of your port, are furnished with a copy of the text of the despatch and their special attention called thereto, and that they be particularly warned of possible consequences in case of any non-attention to the intimations therein contained.

Up to this time (19th March) no definite information as to the nature of the interference likely to be encountered by the sealing fleet had been announced; consequently but a very small percentage of the vessels which cleared this year did so with a knowledge of the policy subsequently promulgated.

RENEWED "MODUS VIVENDI."

The question of the necessary extent of the restrictions in Behring Sea for 1892 compatible with the interest of the sealing industry formed the subject of correspondence. Public opinion was, perhaps, not prepared for such a drastic measure as the total exclusion of the previous year.

The negotiations resulted in a convention for the renewal of the *modus vivendi* of 1891, until the end of October, 1893. The terms of this agreement which was signed on the 18th day of April, 1892, although quite as restrictive, if not more so, than the instrument it continued in force, provided that in the event of the arbitration resulting in an affirmation of the right of British sealers to pursue their calling within the waters claimed by the United States by virtue of acquisition from Russia, compensation should be made to Great Britain (for the use of her subjects) for abstaining from the exercise of that right during the pendency of arbitration. Such compensation to be based upon a catch which in the opinion of the arbitrators might be taken without unduly diminishing the seal herds.

In other words the compensation in such event would be calculated upon any take of seals in accordance with any international regulations for the protection of these animals which might be decided upon by the Arbitration Tribunal.

The text of the present *modus vivendi* is given in full:—

CONVENTION between Great Britain and the United States of America for the renewal of the existing *modus vivendi* in Behring Sea.

Whereas by a convention concluded between Her Majesty the Queen of the United Kingdom of Great Britain and Ireland and the United States of America, on the twenty-ninth day of February, one thousand eight hundred and ninety-two, the High Contracting Parties have agreed to submit to arbitration, as therein stated, the questions which have arisen between them concerning the jurisdictional rights of the United States in the waters of Behring Sea, and concerning also the preservation of the fur-seal in, or habitually resorting to, the said sea, and the rights of the subjects and citizens of either country as regards the taking of fur-seal in, or habitually resorting to, the said waters; and whereas the High Contracting Parties, having differed as to what restrictive regulations for seal-hunting are necessary, during the pendency of the arbitration, have agreed to adjust such difference in manner hereinafter mentioned, and without prejudice to the rights of either party.

The said High Contracting Parties have appointed as their plenipotentiaries to conclude a convention for this purpose, that is to say:

Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, Sir Julian Pauncefote, Knight Grand Cross of the Most Distinguished Order of Saint Michael and Saint George, Knight Commander of the Most Honourable Order of the Bath, and Envoy Extraordinary and Minister Plenipotentiary of Her Britannic Majesty to the United States;

And the President of the United States of America, James G. Blaine, Secretary of State of the United States;

Who, after having communicated to each other their respective full powers, found in due and good form, have agreed upon and concluded the following articles:—

Article 1.

Her Majesty's Government will prohibit during the pendency of the arbitration seal-killing in that part of Behring Sea lying eastward of the line of demarcation described in article 1, of the Treaty of 1867, between the United States and Russia, and will promptly use its best efforts to ensure the observance of this prohibition by British subjects and vessels.

Article 2.

The United States Government will prohibit seal-killing for the same period in the same part of Behring Sea, and on the shores and islands thereof, the property of the United States, (in excess of seven thousand five hundred to be taken on the islands for the subsistence and care of the natives), and will promptly use its best efforts to ensure the observance of this prohibition by United States citizens and vessels.

Article 3.

Every vessel or person offending against this prohibition in the said waters of Behring Sea, outside of the ordinary territorial limits of the United States, may be seized and detained by the naval or other duly commissioned officers of either of the High Contracting Parties, but they shall be handed over as soon as practicable to the authorities of the nation to which they respectively belong, who shall alone have jurisdiction to try the offence and impose the penalties for the same. The witnesses and proofs necessary to establish the offence shall also be sent with them.

Article 4.

In order to facilitate such proper inquiries as her Majesty's Government may desire to make, with a view to the presentation of the case and arguments of that

Government before the arbitrators, it is agreed that suitable persons designated by Great Britain will be permitted at any time, upon application, to visit or remain upon the seal islands during the sealing season for that purpose.

Article 5.

If the result of the arbitration be to affirm the right of British sealers to take seals in the Behring Sea within the bounds claimed by the United States under its purchase from Russia, then compensation shall be made by the United States to Great Britain (for the use of Her subjects) for abstaining from the exercise of that right during the pendency of the arbitration, upon the basis of such a regulated and limited catch or catches as in the opinion of the arbitrators might have been taken without an undue diminution of the seal-herds; and, on the other hand, if the result of the arbitration shall be to deny the right of British sealers to take seals within the said waters, then compensation shall be made by Great Britain to the United States (for itself, its citizens and lessees) for this agreement to limit the island catch to seven thousand five hundred a season, upon the basis of the difference between this number and such larger catch as in the opinion of the arbitrators might have been taken without an undue diminution of the seal-herds.

The amount awarded, if any, in either case, shall be such as under all the circumstances is just and equitable, and shall be promptly paid.

Article 6.

This convention may be denounced by either of the High Contracting Parties at any time after the thirty-first day of October, one thousand eight hundred and ninety-three, on giving to the other party two months notice of its termination, and at the expiration of such notice the convention shall cease to be in force.

Article 7.

The present convention shall be duly ratified by Her Britannic Majesty and by the President of the United States of America, by and with the advice and consent of the Senate thereof; and the ratifications shall be exchanged either at London or at Washington as early as possible.

In faith whereof, We, the respective Plenipotentiaries, have signed this convention and have hereunto affixed our seals.

Done in duplicate at Washington this eighteenth day of April, one thousand eight hundred and ninety-two.

(Signed) JULIAN PAUNCEFOTE.
(Signed) JAMES G. BLAINE.

PROCLAMATION, 1892.

Immediately following the confirmation of this convention a proclamation was issued in the *Canada Gazette*, announcing the continuance of the *modus vivendi* till October, 1893.

This proclamation was as follows:—

Stanley of Preston.
[L.S.]

CANADA.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, &c., &c., &c.

To all to whom these presents shall come, or whom the same may in anywise concern,—GREETING:

A PROCLAMATION.

JNO. S. D. THOMPSON, Attorney General, Canada. } Whereas an agreement for a *modus vivendi* between our Government and the Government of the United States in relation to the fur-seal fisheries in Behring Sea, was concluded on the fifteenth day of June, in the year of our Lord one thousand eight hundred and ninety-one, on the following terms, that is to say:—

"Agreement between the Government of Her Britannic Majesty and the Government of the United States for a *modus vivendi* in relation to the fur-seal fisheries in Behring Sea,—

"For the purpose of avoiding irritating differences and with a view to promote the friendly settlement of the questions pending between the two Governments touching their respective rights in Behring Sea, and for the preservation of the Seal species, the following agreement is made without prejudice to the rights or claims of either party:—

"(1.) Her Majesty's Government will prohibit, until May next, seal killing in that part of Behring Sea lying eastward of the line of demarcation described in Article No. 1 of the Treaty of 1867, between the United States and Russia, and will promptly use its best efforts to ensure the observance of this prohibition by British subjects and vessels;

"(2.) The United States Government will prohibit seal killing for the same period in the same part of Behring Sea and on the shores and islands thereof, the property of the United States (in excess of 7,500 to be taken on the islands for the subsistence and care of the natives), and will promptly use its best efforts to ensure the observance of this prohibition by United States citizens and vessels;

"(3.) Every vessel or person offending against this prohibition in the said waters of Behring Sea, outside of the ordinary territorial limits of the United States, may be seized and detained by the naval or other duly commissioned officers of either of the High Contracting Parties, but they shall be handed over as soon as practicable to the authorities of the nation to which they respectively belong, who shall alone have jurisdiction to try the offence and impose the penalties for the same. The witnesses and proofs necessary to establish the offence shall also be sent with them;

"(4.) In order to facilitate such proper inquiries as Her Majesty's Government may desire to make, with a view to the presentation of the case of that Government before arbitrators, and in expectation that an agreement for arbitration may be arrived at, it is agreed that suitable persons designated by Great Britain will be permitted at any time, upon application, to visit or to remain upon the seal islands during the present sealing season for that purpose.

"Signed and sealed in duplicate at Washington, this fifteenth day of June, 1891, on behalf of their respective Governments, by Sir Julian Pauncefote, G.C.M.G., K.C.B., H. B. M. Envoy Extraordinary and Minister Plenipotentiary, and William F. Wharton, Acting Secretary of State of the United States.

"(Signed) JULIAN PAUNCEFOTE. [Seal].
"(Signed) WILLIAM F. WHARTON." [Seal].

And whereas an arrangement has just been concluded between our Government and the Government of the United States for the continuation until the thirty-first day of October, in the year of Our Lord one thousand eight hundred and ninety-three of the said agreement and of the provisions therein made for the prohibiting of the said killing in the Behring Sea, as therein described,—

Now Know Ye, that We have by this Our Royal Proclamation caused the said agreement and the arrangement continuing the same to be made public, to the end that the same and every part thereof may be observed and fulfilled with good faith by all Our loving subjects.

Of all which Our loving subjects and all others whom these presents may concern, are hereby required to take notice and to govern themselves accordingly.

In testimony whereof, We have caused these Our Letters to be made Patent and the Great Seal of Canada to be hereunto affixed. Witness, Our Right Trusty and Well-Beloved the Right Honourable Sir Frederick Arthur Stanley, Baron Stanley of Preston, in the County of Lancaster, in the Peerage of the United Kingdom; Knight Grand Cross of Our Most Honourable Order of the Bath; Governor General

of Canada. At Our Government House, in Our City of Ottawa, this twenty-second day of April, in the year of our Lord one thousand eight hundred and ninety-two and in the fifty-fifth year of Our Reign.

By command,

J. C. PATTERSON.
Secretary of State.

Imperial Legislation and Order in Council arising out of the *modus vivendi* agreement, is given as follows :—

AT THE COURT AT WINDSOR, THE 9TH DAY OF MAY, 1892.

Present :

THE QUEEN'S MOST EXCELLENT MAJESTY.

Lord President,
Lord Steward,
Earl of Yarborough.
Sir Walter Barttelot, Bart.
Mr. Forwood.

Whereas by "The Seal Fishery (Behring Sea) Act, 1891," it is enacted that Her Majesty the Queen may by Order in Council prohibit the catching of seals by British ships in Behring Sea or such part thereof as is defined by the said Order during the period limited by the Order :

And whereas the expression "Behring Sea" in the said Act means the sea known as Behring Sea within the limits described in an Order under the said Act :

And whereas an Order in Council was issued on the 23rd day of June, 1891 prohibiting the catching of seals by British ships in Behring Sea as therein defined until the first day of May, 1892,—

Now therefore Her Majesty, in virtue of the powers vested in her by the said recited Act, by and with the advice of Her Privy Council, is hereby pleased to order and it is hereby ordered as follows :—

1. This Order may be cited as the Seal Fishery (Behring Sea) Order in Council 1891.

2. From and after the date of the present Order, until the first day of May, one thousand eight hundred and ninety-three, the catching of seals by British ships in Behring Sea. as hereinafter defined, is hereby prohibited.

3. For the purpose of the said recited Act and of this Order the expression "Behring Sea" means so much of that part of the Pacific Ocean known as Behring Sea as lies between the parallel of 65° 30′ north latitude and the chain of the Aleutian Islands and eastward of the following line of demarcation, that is to say, a line commencing at a point in Behring Straits on the said parallel of 65° 30′ north latitude, at its intersection by the meridian which passes midway between the Islands of Krusenstern or Ignalook and the Island of Ratmanoff or Noonarbook and proceeding thence in a course nearly south-west through Behring Straits and the seas known as Behring Sea so as to pass midway between the north-west point of the Island of Saint Lawrence and the south-east point of Cape Choukotski to the meridian of 172° west longitude, thence, from the intersection of that meridian in a south-westerly direction so as to pass midway between the Island of Attou and the Copper Island of the Kormandorski couplet or group in the North Pacific Ocean, to the meridian of 193° west longitude.

The collectors of customs were immediately informed by telegraph and directed to notify all concerned according.

All vessels which sailed subsequently to the 28th March were warned against entering Behring Sea.

INSTRUCTIONS TO CRUISERS, 1892.

The instructions to the vessels charged with the enforcement of the *modus vivendi* 1892, differed from those of the previous year, inasmuch as they provided for the izure of sealing vessels found within the disputed waters whether or not previously arned. Those of 1891 provided for the warning of all vessels prior to seizure.

The text of the instructions issued to the cruisers of the United States is as llows:—

SIR,—In pursuance of the convention between the United States and Great Britain, ated 18th April, 1892, for a *modus vivendi* respecting the taking of seal in Bering ea, you will cause the vessels under your command to warn all American and ritish vessels they meet outside of Bering Sea not to enter the prohibited waters f that sea for the purpose of sealing, and you will deposit on board of each vessel o warned a copy of the convention, of the President's proclamation, dated February 5, 1892, of the British Seal Fishery (Bering Sea) Act, 1891, and of these instruc- ons. Entry of notice and warning will be made upon the register of all vessels otified.

Any vessel found to be, or to have been, employed in sealing within the pro- ibited waters of Bering Sea whether with or without warning, and any vessel ound therein, whether warned or not, having on board implements for taking seal, or eal skins, or bodies of seals, will be seized.

The prohibited waters include that part of Bering Sea east of the line of demark- tion marked upon Hydrographic Office Chart No. 68.

The commanding officer of the vessel making the seizure will, at the time thereof, raw up a declaration in writing, stating the condition of the seized vessel, place and ate of seizure, giving latitude and longitude, and circumstances showing guilt. The eized vessel will be brought or sent in charge of a sufficient force to insure delivery, ogether with witnesses and proofs and the declaration of the officer making the eizure, if American, to Sitka and there delivered to the officer of the United States District Court at that place, and if British, to Unalaska and there delivered to the enior British naval officer in Bering Sea. The master of the seized vessel, her nate or boatswain and such portion of her crew as can conveniently be carried herein will be sent as prisoners with the vessel to suffer the penalty of the law.

A signed and certified list of the papers of the seized vessel will be delivered to he master thereof, and a duplicate copy will be transmitted with the declaration.

Those to the British cruisers were:—

Proceed to Behring Sea and cruise as may be necessary with the object of arrying out Order in Council of 9th May, 1892, which renews provisions of Order n Council of 23rd June, 1891, until May next. Before entering the sea cruise off he Pass and visit such places and ports of entrance to sea as you think best in rder to intercept sealing vessels and send on board copy of Convention and a vritten order informing them you are instructed that if found hunting seals or pre- aring to do so in Behring Sea, they will be seized, using utmost endeavours to arry out this duty. After carrying out above proceed into the sea and cruise there, s necessary to enforce convention, seizing whether warned or not, any vessels found ffending. British vessels should have sealing equipment confiscated and after ecording name of the master and vessel, send ship to Victoria, B. C., to report to ollector of customs. American vessels should be turned over to nearest American uthority with necessary proof of offence, &c. Co-operate cordially with American ruisers as much as possible in arranging above duty. "Danube" has been char- ered as collier and will leave on 1st July for Unalaska with coal, fresh provisions nd letters for squadron. American Squadron, five vessels sailed.

LIST OF VESSELS CLEARED IN 1892.

The following is a list of vessels which cleared from British Columbia ports, on fishing voyages to the Pacific Ocean, giving in each case the date of clearance.

SEALING FLEET SEASON, 1892.

No.	Name of Vessel.	Tons.	Crews.		Boats.	Canoes.	Date of Clearance.
			Whites.	Indians.			
1	Maggie Mac	71	23	.....	6	.....	January 9.
2	Sea Lion	50	19	.....	5	.....	do 12.
3	Laura	19	4	16	1	8	do 12.
4	Teresa	63	23	.....	6	.....	do 14.
5	W. P. Sayward	59	19	.....	5	.....	do 14.
6	Annie E. Paint	82	20	.....	5	.....	do 19.
7	Walter E. Earle	68	22	.....	6	.....	do 19.
8	Minnie	10	8	.....	2	.....	do 21.
9	Umbrina	98	23	.....	6	.....	do 22.
10	Labrador	25	11	.....	4	.....	do 27.
11	Mascot	40	17	.....	4	.....	do 23.
12	Ocean Belle	83	25	.....	6	.....	do 23.
13	Oscar and Hattie	81	23	.....	6	.....	do 28.
14	Carlotta G. Cox	76	23	.....	6	.....	do 28.
15	C. H. Tupper	99	24	.....	6	.....	do 28.
16	Carmolite	99	23	.....	6	.....	do 28.
17	Rosie Olsen	39	6	20	1	10	February 1.
18	Maud S	97	24	.....	6	.....	do 1.
19	Geneva	93	26	.....	7	.....	do 2.
20	Beatrice	66	5	20	1	10	do 2.
21	Mary Taylor	42	18	.....	4	.....	do 4.
22	Ainoko	75	6	24	2	12	do 5.
23	Thistle (Str)	147	15	.....	6	.....	do 6.
24	Aurora	41	4	20	1	10	do 6.
25	Pioneer	66	20	.....	5	.....	do 8.
26	Viva	92	25	.....	6	.....	do 8.
27	Borealis	37	5	20	1	10	do 9.
28	Penelope	70	21	.....	5	.....	do 9.
29	Annie C. Moore	113	23	.....	6	.....	do 13.
30	Katherine	81	5	28	2	14	do 13.
31	Triumph	98	7	32	2	16	do 15.
32	May Belle	58	5	20	2	10	do 18.
33	Venture	48	4	16	2	8	do 18.
34	Ariel	91	7	28	2	14	do 18.
35	Kate	58	5	24	2	12	do 19.
36	E. B. Marvin	117	22	.....	6	.....	January 19.
37	Mischief (Str)	48	5	20	2	10	February 19.
38	Sapphire	124	7	32	2	16	do 19.
39	Sadie Turpel	56	22	.....	6	.....	do 19.
40	Wanderer	25	3	10	1	3	do 20.
41	Victoria	63	23	.....	6	.....	do 20.
42	Winnifred	13	6	12	2	6	do 20.
43	Favorite	80	6	24	2	12	do 22.
44	Walter L. Rich	76	19	.....	5	.....	do 22.
45	Minnie	46	4	20	2	10	do 23.
46	Mary Ellen	63	5	28	2	14	do 26.
47	Henrietta	31	4	10	2	5	March 12.
48	Fawn	59	6	20	3	10	do 26.
	Total Canadian to date	3,236	670	444	184	222	

Subsequently, the following vessels cleared, thus increasing the sealing fleet during the year 1892, to 65.

49.	Schr. "Brenda"	..... 100 tons.	.....	March 28.
50.	do "Mermaid"	..... 73 do	.....	do 31.
51.	do "Mountain Chief"	..... 23 do	.....	April 12.
52.	do "Agnes McDonald"	..... 107 do	....	do 12.

53.	Schr.	"Lottie"	19 tons.	April	13.
54.	do	"C. D. Rand"	51 do	do	13.
55.	do	"Otto"	86 do	do	23.
56.	do	"Arietas"	86 do	do	25.
57.	do	"Maria"	94 do	do	26.
58.	do	"Dora Sieward"	94 do	do	30.
59.	do	"Enterprise"	69 do	May	11.
60.	do	"Walter P. Hall"	99 do	do	13.
61.	do	"Wm. McGowan"	115 do	do	14.
62.	do	"Libbie"	93 do	do	14.
63.	do	"Ariel"	74 do	do	14.
64.	do	"Cape Beale."			
65.	do	"Beatrice" (Vancouver).			

REMONSTRANCES AGAINST SEIZURES WITHOUT WARNING.

The substance of the instructions to United States vessels having found its way to the press, remonstrances were received on behalf of the sealers against the proposed seizures without warning.

The objections were taken on the ground that during the previous year all vessels were warned, which allowed them to avoid seizure, and as the majority of the fleet had cleared prior to the promulgation of the continuance of the *modus vivendi* the reasonable supposition was that no extreme measures would be taken without an opportunity being afforded to leave the sea on notification of the prohibition.

AVOIDANCE OF PROHIBITED WATERS.

So far as reports up to the time of writing, the Canadian sealing fleet this year avoided the prohibited waters, and those which continued their operations beyond the coast did so on the Asiatic side of the line of demarcation.

INTERFERENCE WITH BRITISH VESSELS.

The only case of interference with British vessels within the limits interdicted by the *modus vivendi*, which has been reported this year, were as follows:—

The schooner "Mountain Chief" was seized in the act of taking seals in Behring Sea, by United States steamer "Adams," and handed over to H. M.'s steamer "Daphne," when she was ordered to proceed to Victoria, where she arrived on the 2nd September, 1892. She was taken in charge by the customs authorities.

This vessel is registered at Victoria, and is owned by James Nawassum, an Indian sealer.

On leaving Victoria the master was especially warned of his liability to interference if he entered the prohibited waters.

There was only one white on board, who was master.

At the time of the seizure the vessel had on board 137 seal-skins.

The vessel was sized on 29th July, in latitude 54° 57′ north, longitude 170° 18′ W.

The schooner "Oscar and Hattie" was seized at Attou Island by the United States ship "Mohican," where, on returning from the Asiatic side, she had called for a fresh supply of water. This island is the most westerly of the Aleutian chain.

The vessel reported at customs in Victoria on the 1st October, bringing directions from the commander of H. M.'s steamer "Melpomene" to the collector, to secure the vessel's outfit and skins.

The collector reported that he had received information from Rear Admiral Hatham that this vessel is to be proceeded against.

THE SUPPLY STEAMER "COQUITLAM."

The owners of sealing vessels and those interested therein chartered during the month of May, 1892, the steamship "Coquitlam" belonging to the Union Steamship Company of Vancouver, for the purpose of proceeding to the rendezvous selected by the sealers to meet the fleet and take therefrom their catch of skins and to transfer provisions to those of them which intended to continue their sealing voyages to the Asiatic waters.

This vessel was also charged with the delivery to the fleet of mails, which were stated to contain positive directions to the vessels not to enter the disputed waters under any consideration.

Before she had fulfilled her mission, however, and after she had made a few transfers of provisions and collected some 6,000 seal skins, which transfers took place outside of the three-mile territorial limit adjacent to the Island of Afognak and on the way to Middleton Island in the open North Pacific Ocean, was seized on the 22nd June, 1892, while at anchor in the harbour of Port Etches, where she had gone for water, by Captain C. L. Hooper of the United States revenue cutter "Corwin."

The reason assigned for her seizure was that she had by her acts in transferring cargo and skins outside the 3-mile limit, committed a breach of local customs laws which prohibit the unloading of cargo within four leagues of the coast of the district of Alaska.

The vessel was promptly handed over to the authorities, and proceedings were entered against her in the District Court of Alaska.

As the full text of the libel against this vessel might prove of interest, it is included herein as below:—

IN THE DISTRICT COURT OF THE UNITED STATES OF AMERICA, DISTRICT OF ALASKA.

Of the May term in the year one thousand eight hundred and ninety-two.

The United States *vs.* The steamer "Coquitlam," her boats, tackle, apparel, furniture, engines, boilers and cargo.	No. —

To the Honourable Warren Truitt, Judge of the United States District Court for the District of Alaska:—

The libel of information of C. S. Johnson, attorney of the United States for the District of Alaska, who prosecutes on behalf of the United States, and being present in court, in his proper person, in the name and on behalf of the United States, against the steamer "Coquitlam," her boats, tackle, apparel, furniture, boilers, engines and cargo, and against all persons intervening for their interest therein, in a cause of forfeiture, alleges and informs as follows:

That C. L. Hooper, a captain in the United States marine revenue service, duly commissioned by the President of the United States, and then and there commanding the United States revenue cutter "Corwin," on duty in the waters of Alaska, and duly authorized in the premises, heretofore on or about the 22nd day of June, 1892, at or near Port Etches, Hinchinbrook Island, within the district of Alaska, and within the jurisdiction of this court, on waters navigable from the sea by vessels of ten or more tons burden, seized the ship or vessel, commonly called a steamer and known as the "Coquitlam," her boats, tackle apparel, furniture, engines, boilers and cargo, and turned the same over to the collector of customs for the Port of Sitka, in said district of Alaska, where they now are, said vessel, her tackle, apparel, boats, furniture, engines and boilers, being the property of the Union Steamship Company of Vancouver, in British Columbia, said owners not being citizens of the United States, and said cargo being the property of some person or persons to the said attorney unknown, as forfeited to the United States for the following among other causes:—

1st. That on or about the 19th day of June, 1892, within the limits of the United States, within the limits of the Alaska Collection District and within the waters thereof within four leagues of the coast of said district of Alaska, and within the jurisdiction of this court, to wit: at or near the Island of Afognak, there was unladen from the following named vessels the merchandise and cargo hereinafter named: From the schooner "Brenda," 409 fur-seal skins; the "Umbrina," 707 fur-seal skins; the "Sea Lion," 629 fur-seal skins; the "Venture," 150 fur-seal skins; the "Maud S.," 773 fur-seal skins, and from the "Walter A. Earle," 1,225 fur-seal skins. That afterward, to wit, on or about the 20th and 21st day of June, 1892, within the limits of the United States, and within said collection district and the water thereof, and within four leagues of the coast of said district of Alaska, in the Gulf of Alaska, there was unladen from on board the vessel known as the "Oscar and Hattie," 171 fur-seal skins; from the vessel known as the "Viva," 1,654 fur-seal skins, and from the vessel known as the "Fawn," 472 fur-seal skins, aggregating in all the sum of 6,190 fur-seal skins so unladen. That each and all of said vessels so unlading said merchandise were from the port of Victoria in British Columbia, or some other foreign port, were laden with merchandise, were bound for the United States, and on or about the 18th day of June, 1892, were anchored in a small bay in Afognak Island and elsewhere in the waters adjacent to the land and within the collection district of Alaska. None of said vessels at the time of so unlading said merchandise had come to the proper place for the discharge of their cargo, nor any part thereof, nor had any of them been authorized by the proper officer of the customs of said district of Alaska, to unlade the same, and said unlading was not made necessary by any unavoidable accident, necessity or distress. That all of said merchandise so unladen from on board said vessels was put and received into said steamer "Coquitlam," at the time and places the same were unladen as hereinbefore set forth. Said merchandise was so received into said steamer "Coquitlam" with the full knowledge and consent of one E. E. McClellan, who was then and there master of said vessel, all contrary to the provisions of sections 2867 and 2868 of the Revised Statutes of the United States in such case made and provided.

2nd. And said C. S. Johnson, Attorney for the United States for the district of Alaska, aforesaid, further alleges and informs: That said steamer "Coquitlam" is a foreign vessel, owned by the Union Steamship Company (limited), of Vancouver, British Columbia, as hereinbefore described. That said vessel on the 8th day of June, 1892, cleared from the foreign port of Victoria, in British Columbia, laden with a large amount of general merchandise, to wit: one hundred tons or more. That on or about the 18th day of June, 1892, said vessel with her said cargo arrived in the waters of the United States from said foreign territory, adjacent to the north-western frontier of the United States, to wit: in a small bay or harbour in the Island of Afognak, one of the islands belonging to the United States, lying adjacent to the mainland of the Territory of Alaska, within the collection district of Alaska, and within the jurisdictien of this court, and came to anchor within said

bay or harbour. That the office of the deputy collector of customs which was nearest to the point at which said vessel so entered the waters of the United States was and is at Kadiak, sometimes called Saint Paul, on Kadiak Island, adjacent to said Island of Afognak. That at all the times complained of herein said E. E. McClellan was the master of said steamer "Coquitlam." That said master did not report at the office of said deputy collector of customs at Kadiak, nor did he report to any Collector or deputy collector of customs for said district of Alaska, nor did he obtain or receive a special permit from such collector or deputy collector to proceed further inland to unlade or take in cargo. Yet said vessel on or about the 19th day of June, 1892, within the collection district of Alaska, within the waters of the United States, within four leagues of the Island of Afognak, and within the jurisdiction of this court, did unlade a large amount of general merchandise from said steamer "Coquitlam" and did transfer said merchandise from said steamer "Coquitlam" to the British schooners "Brenda," "Sea Lion," "Venture," "Maud S," "Umbrina," "Winnifred," "Libby" and "Walter A. Earle," and did then and there receive and take in as cargo from each of said schooners, except the "Winnifred" and "Libby" a large quantity of fur-seal skins, aggregating in all the number of 3,893. All contrary to the provisions of section 3109 of the Revised Statutes of the United States in such case made and provided.

3rd. Said C. S. Johnson, Attorney for the United States for said district of Alaska, further informs and alleges, that an itemized account of the cargo of the steamer "Coquitlam" seized on 22nd day of June, 1892, in manner hereinbefore described is hereto annexed, marked exhibit "A" and made a part of this pleading. That said cargo ought to be forfeited to the United States, for that on or about 19th day of June, 1892, the British vessels "Brenda," "Umbrina," "Sea Lion," "Venture," "Maud S." and "Walter A. Earle," after having cleared from the foreign port of Victoria in British Columbia, or some other foreign port, being laden with merchandise and bound for the United States, on or about the 20th and 21st days of June, 1892, and after said vessels had arrived within the collection district of Alaska and within four leagues of the coast thereof, in the Gulf of Alaska, did lade a large amount of cargo and merchandise, to wit: 2,297 fur-seal skins, before any of said vessels had been duly authorized by the proper officer of the customs to unlade the same. That said unlading was not due to any unavoidable accident, necessity or distress of weather, and said 6,190 fur-seal skins so unladen were found on board said steamer "Coquitlam" and were and are a part of the cargo seized as hereinbefore set forth. Said unlading was contrary to the provisions of section 2867 of the Revised Statutes of the United States in such case made and provided.

4th. And said C. S. Johnson, attorney for the United States aforesaid, further informs and alleges that the cargo of the steamer "Coquitlam" seized on the 22nd day of June, 1892, in manner and form aforesaid, should be forfeited to the United States for the further reason: That said steamer "Coquitlam" is a foreign vessel, owned in Vancouver in British Columbia. That on the 8th day of June, 1892, she cleared from the foreign port of Victoria in British Columbia, for the North Pacific Ocean. That on or about the 22nd day of June, 1892, and without having cleared from any other port, said vessel brought into the United States, at Port Etches, in the District of Alaska, from a foreign port or ports to said attorney unknown, except as hereinbefore stated, a large quantity of merchandise, said merchandise being of the value of $60.00 and more. An itemized account of said merchandise is hereto annexed, marked exhibit "A" and made a part of this libel of information. That at said time one E. E. McClellan was the master of said vessel, and he the said master did not then and there have on board of said vessel any manifest whatever in writing of said cargo signed by said master, or otherwise. That a large quantity of said merchandise was by law subject to duty, and the duty thereon had not been paid or secured to be paid to the United States. That all of said merchandise was so brought into the United States with the full knowledge of said E. E. McClellan, master of said vessel, and contrary to the provisions of sections 2806–2807 and 2809 of the Revised Statutes of the United States in such case made and provided, And all of the acts and things complained of in this libel of information as having

been done and performed by said vessel and her said master were done and performed with the full knowledge and approval of the master, contrary to the Statutes of the United States in such case made and provided, in violation of the Customs and Revenue laws of the United States and with the intent then and there to defraud the revenues of the United States, and the said attorney saith, that all and singular the premises are true and within the Admiralty and Maritime jurisdiction of the United States in such case made and provided, the aforementioned and described vessel, her boats, tackle, apparel, furniture, boilers, engines, cargo, and all things found upon and appertaining to her, become and are forfeited to the use of the United States of America.

Wherefore the said attorney prays that the usual process and monition of this Honourable Court issue in this behalf, and that all persons interested in the aforementioned vessel and cargo be cited in general and special to answer the premises, and all due proceedings being had the said vessel, her boats, tackle, apparel, furniture, boilers, engines, cargo, and all things found upon and belonging and appertaining to said vessel, may, for the causes aforesaid, and others appearing, be condemned to the use of the United States of America, according to the form of the Statutes of the said United States in such case made and provided.

(Signed) C. S. JOHNSON,
United States Attorney for the District of Alaska.

Exhibit "A."

Itemized account of cargo found on board the steamer "Coquitlam."

357 sacks potatoes—665⅛ bushels,
24 sacks onions—41⅛⅞ bushels,
4 sacks turnips—5⅓ bushels,
55 sacks coarse salt—10,204 pounds,
8 barrels sugar,
5 cases butter,
39½ boxes biscuit,
8 cases tomatoes,
13 boxes baking powder,
10 boxes dried apples,
9 cases condensed milk,
2 tins matches,
118 sacks flour,
41 boxes roast beef,
14 boxes corned beef,
5 boxes corn,
44 mats china rice,
3 cases canned salmon,
2 boxes raisins,
2 boxes currants,
1 box brass shells,
2 boxes cartridges,
6 kegs powder,
9 kegs butter,
1 box pepper,
8 sacks shot,
5 pounds corned meat,
5 cases coffee,
5 sacks beans,
5 tubs butter,
5 cases lard,
4 cases bacon,
3 cases evaporated veg. soup, in packages,
2 cases soda biscuits,
2 cases compasses,
9 kegs sugar (100 lbs. net),
3 chests tea (51 lbs. net),
2 sacks sugar,
9 barrels beef,
3 barrels pork,
1 case lemons,
4 boxes tobacco,
1 box medicines,
1 case gum boots "hip,"
26 cases coal oil,
2 cases roast mutton,
2 shot-guns,
1 box eggs (about 6 doz.),
3 joints stove-pipe
1 bundle canvas,
1 shackle,
1 bundle sails,
4 boxes sundries,
29 boxes sundries,
100 tons coal,
1 small row boat,
385 sacks fur-seal skins, said to contain 6,191 skins.

Prompt representations were made to her Majesty's Government with a view to bringing this matter before the United States Government for the purpose of obtaining full compensation on behalf of those interested for an Act which appears to be an extraordinary interference with a foreign vessel pursuing a legitimate calling upon the high seas.

The case is still the subject of correspondence.

The seizure of this vessel is reported to have had a very important effect upon the movements of the sealers, as those not sufficiently provisioned for protracted voyages, having been cut off from supplies expected by the "Coquitlam" would naturally be compelled to shorten their voyages; while the non-receipt of orders not to enter Behring Sea might seriously affect others.

THE SEASON'S CATCH.

The following clipping from the Toronto "Empire" newspaper of 25th October, 1892, gives a detailed statement of the catch of the sealing fleet for the current season. The article is quoted in full:—

Of the sealing vessels of the Victoria fleet the last is now in port or accounted for, and the total results for the year are therefore obtainable. These results are far from satisfactory, for apart from the losses consequent upon exclusion from Behring Sea, considerable money has been sacrificed by the "Coquitlam's" seizure and the expensive litigation in connection therewith. The Russians have seized or driven away the schooners seeking the Copper Island side, and to crown the series of misfortunes the heavy fogs have seriously interfered with the work of the hunters. Few of the sealing men have made money; the majority have to face an unpleasant balance on the wrong side of the books.

According to the official reports at the custom-house which will shortly be forwarded to Ottawa, 65 British Columbia schooners have cleared for the sealing grounds this season, their crews including 952 white men and 491 Indians. The schooners carried 273 boats and 250 hunting canoes, and the results of their season's operations are set forth in the appended statement:—

Schooner.	Lower Coast Catch.	Upper Coast Catch.	Asiatic Catch.	Total.
Annie E. Paint	186	412	421	1,019
Ainoko	21	719		740
Aurora	7	371		378
Annie C. Moore	64	379	447	990
Ariel (1)		268		268
Ariel (2)				(seized.)
Arietas		418	738	1,156
Agnes Macdonald		591	373	964
Beatrice	115	455		570
Borealis	21	486		507
Brenda		409	512	921
Beatrice (Vancouver)		678		678
Carlotta G. Cox	436	1,605	696	2,737
C. H. Tupper	308	967	542	1,817
Carmolite	174	705	(seized.)	879
C. D. Rand	28		(seized.)	28
Cape Beale	27			27
Dora Sieward		224	673	897
E. B. Marvin	183	1,434	430	2,045
Enterprise			507	507
Favorite		450	202	652
Fawn		480		480
Geneva	270	420	600	1,290
Henrietta	44	108	(seized.)	152
Katharine	27	406		433
Kate		270		270
Lottie	(wrecked.)			
Laura	(wrecked.)			
Labrador	50	225		275
Libbie		39		39
Maria			(seized.)	
* Maggie Mac				

Schooner.	Lower Coast Catch.	Upper Coast Catch.	Asiatic Catch.	Total.
Minnie (1)	5	.....	.....	5
Minnie (2)	.....	500	.....	500
Mascot	107	220	119	446
Maud S.	185	769	748	1,702
Mary Taylor	135	807	.....	942
May Belle	149	145	230	524
Mischief (str.)	26	635	.....	661
Mary Ellen	35	507	304	846
Mermaid	.....	164	238	402
Mountain Chief	.....	.....	(seized.)	.....
Ocean Belle	128	687	646	1,461
Oscar & Hattie	25	186	261	†472
Otto	.....	263	.....	263
Pioneer	100	329	.....	429
Penelope	345	.....	1,362	1,707
Rosie Olsen	.....	.....	(seized.)	.....
Sea Lion	472	629	833	1,934
Sapphire	.....	970	.....	970
Sadie Turple	.....	451	244	695
Teresa	83	306	175	564
Thistle (str.)	79	.....	4	83
Triumph	.....	284	257	541
Umbrina	143	707	623	1,473
Viva	193	1,555	.....	1,748
Venture	5	160	.....	165
Victoria	23	.....	558	581
W. P. Sayward	180	.....	900	1,080
Walter A. Earle	100	1,226	541	1,866
Winnifred	.....	100	.....	†100
Wanderer	.....	137	.....	137
Walter L. Rich	.....	182	204	386
Willie McGowan	.....	93	.....	†93
W. P. Hall	.....	.....	416	416
Indians (casual)	.....	.....	.....	1,500

*Supposed to be lost. †Seized.

THE TOTAL CATCH.

Lower coast	4,579
Upper coast	24,528
Asiatic	14,805
Casual	1,500
Total	53,912

In addition to the above, the American schooners "Willard," "Ainsworth," "Anaconda," "Mattie T.," "Dyer," "City of San Diego," and "Casco," have brought 3,381 skins to port during the season. Of these, 99 were taken on the lower, 2,056 on the upper, and 1,224 on the Asiatic coast. The "Casco's" catch for the season was one seal, taken on the California coast, but then she is popularly supposed to have cleared considerable in less legitimate operations, so her owners are not sad.

ENQUIRY INTO SEALERS' CLAIMS UNDER MODUS VIVENDI OF 1891.

In the spring of the current year the Lords Commissioners of the Treasury appointed two officers to receive and examine claims of British sealers to compensation by reason of expulsion from Behring Sea under the *modus vivendi* agreement of 1891.

A list of vessels on behalf of which these claims were advanced, will be found at p. xxxvi. of the Report of the Department of Fisheries for 1891.

Mr. G. E. Y. Eleadowe, an officer of the Imperial Treasury Department, and Mr. Arthur J. Rose, an average adjuster in the service of the National Marine Insurance Association, were the gentlemen selected for this work.

After visiting Ottawa and receiving all information necessary to enable them to embark on their mission, they proceeded to Victoria, where they began their work.

In order that an opportunity might be afforded the sealers of filing their claims in time for consideration, as well as to avoid the omission of any claims, the following notice was published in the *Canada Gazette* and in the principal newspapers of British Columbia:—

NOTICE TO OWNERS AND MASTERS OF BRITISH SEALING VESSELS.

Notice is hereby given to all persons having claims for compensation for loss or damage by reason of expulsion from, or warning out of Behring Sea, under the provisions of the *modus vivendi* between Her Majesty's Government and that of the United States of America, during the year 1891, that all claims must be lodged at the office of the Collector of Customs, at Victoria, British Columbia, within a month from the date of this notice.

Claims not lodged within the time specified will not be considered.

Dated at Ottawa this 28th day of March, 1892.

(Signed) CHARLES H. TUPPER,
Minister of Marine and Fisheries.

The report of the commissioners has not yet been received by the Department.

ARBITRATION.

Preparation is now being made for a submission of the case to the arbitrators who have been appointed in accordance with the Treaty previously quoted.

The Arbitration Tribunal will meet in Paris early in the coming year, when it is hoped a speedy and final settlement of this vexatious question will be reached.

SEIZURES OF AND INTERFERENCE WITH BRITISH SEALING VESSELS IN THE NORTH PACIFIC OCEAN BY RUSSIAN AUTHORITIES.

The *modus vivendi* affecting the prohibition of sealing in that portion of the North Pacific Ocean known as Behring Sea and lying east of the line of demarcation, as defined in the Treaty of Cession (1867) between Russia and the United States, entered into between the Government of Her Britannic Majesty and that of the United States, to apply pending arbitration on the questions of difference between Great Britain and the United States regarding the seal fisheries there, diverted a number of the Canadian sealing fleet from those waters to the Asiatic portion of the North Pacific Ocean.

These vessels, which fitted out and cleared on extended sealing voyages early in the season prior to the promulgation of the prohibition in waters where hitherto they had been in the habit of pursuing their calling, upon becoming aware of the embargo placed upon their operations, sought new fields in order to make their venture a paying one.

Although these waters had not been so generally resorted to by Canadian sealers as were those on the American side on account of comparative distance, yet

frequent visitations had been made there with more or less success, without any hostilities having been displayed by Russia, so long as the visitors conducted their operations outside of the recognized territorial waters of that nation.

This year, however, reports have been received of an aggressive attitude on the part of Russian authorities towards Canadian sealers, entailing great loss and hardship to all concerned.

Beside the seizure of the schooners "Ariel," "Willie McGowan" and "Rosie Olsen," which will be dealt with at length in this article, there were also reported to have been seized by the Russian authorities one sealing boat belonging to the British sealing schooner "E. B. Marvin," and three belonging to the schooner "Sayward." The crews of these boats were taken by the Russians.

It was also announced by the Sealers' Association of Victoria, that the schooner "E. B. Marvin" which arrived in port on the 19th September, 1892, reported the seizure of the schooner "Vancouver Belle" and four other British schooners the names of which were unknown, and it was thought that others of the fleet of 40 vessels in those waters would share a similar fate.

The schooner "C. H. Tupper" was boarded by the master of the Russian cruiser "Zabiaka" in latitude 53° 50′ north, longitude 166° 07′ east at a distance of about 59 miles from land, and after a careful examination of the log and calculation of the positions of schooner ever since she reached the vicinity, although never nearer land than at the time of boarding, her master was informed that if found in those waters after his warning she would be seized and confiscated. She consequently abandoned her voyage.

The first announcement of seizures of British ships in the North Pacific Ocean, was contained in the following telegram received from the collector of customs at Victoria, British Columbia:—

Russian cruisers seized schooner "Ariel," "Willie McGowan" and "Rosie Olsen," about 40 miles from Copper Island, Russian side; also one American. All taken. Distressed crews, eighty-four men, arrived here to-day by sailing vessel from Petropaulovski.

The collector was asked for full particulars and affidavits touching these seizures.

He forwarded a statement by one of the crew of the seized schooner "Ariel," which contains a detailed account of the arrests.

This showed that:—

1. Schooner "Ariel" of Victoria, British Columbia, was seized by Imperial Russian cruiser "Zabiaka," 28th July, 1892. Latitude, 54° 10′; longitude, 167° 40′ east. Distant 30 to 40 miles south-east of Copper Island.
2. Schooner "Willie McGowan," of Shelburne, Nova Scotia, John Daley, master, was seized by Imperial Russian cruiser "Zabiaka, 18th July, 1892. Latitude, 53° 50′; Longitude, 167° 51′ east. Distant between 40 and 50 miles from Copper Island.
3. Schooner "Rosie Olsen," of Victoria, British Columbia, Michael Keefe, master, was seized by the Russian Fur Company's steamer "Kotik," 26th July, 1892. Latitude, 54° 24′; Longitude, 165° 40′.

It would seem that this vessel was actually 40 miles from land.

The commanding officer of the "Zabiaka," Captain de Levron, upon Captain Daley's protest, appears to have stated that he would seize any vessel furnished with a sealing outfit or even with salt on board, if found within one or one thousand miles of Russian possessions.

This is an assumption of jurisdiction over a British ship which cannot, of course, find the slightest sanction.

The masters of the seized schooners were induced to sign a paper written i Russian. This was explained to them as involving an acknowledgment that they had been hunting seals in Russian waters.

The account proceeded :—

Each of the captains of the schooners protested against this. Then de Levron informed them and threatened that unless they did so they would be sent to Vladivostock to be court-martialed and from thence to Siberia—presumably to the mines.

The Governor of Behring Island used the same argument to the master of the "Rosie Olsen."

From the geographical position of the Kormandorski group or couplet comprising Behring and Copper Islands following the trend of the arc of the Aleutian chain they form on the Asiatic side of the line of demarcation drawn through the Behring Straits quite as natural a southern boundary of that portion of Behring Sea as do the Aleutian Islands proper form the southern boundary on the American side of the line of demarcation. It is clear that these seizures to the south of the islands in question were effected in the North Pacific Ocean south of the Aleutian chain and in the waters which the United States have so persistently sought to distinguish from the Behring Sea on the authority of Russian claims.

The Encyclopædia Britannica shows that the Aleutian Islands, "so called from the Russian word *Aleut*, signifying a bold rock, is the name given by the Russian discoverer *to a chain of small islands situated in the Northern Pacific Ocean and extending in an easterly direction from the peninsula of Kamtchatka, in Asiatic Russia to the promontory of Alaska in North America.*" * * * * *

This definition therefore includes the Kormandorski couplet or Commander Islands.

The "Brief" in the cases before the District Court of Alaska against the British ships for seal hunting in Behring Sea, prepared by Mr. A. K. Delaney as counsel for the United States Government, shows the following determination of Behring Sea :—

Behring Sea is an inland water formerly known as the sea of Kamtchatka, is bounded by the Peninsula of Kamtchatka and Eastern Siberia to the Behring Strait. From the American side of this Strait the waters of the Behring Sea wash the coast of the mainland of Alaska as far south as the Peninsula of Alaska. From the extremity of this peninsula in a long sweeping curve, *the Aleutian Islands stretch is a continuous chain almost to the shores of Kamtchatka, thus incasing the sea.*

Further on in Mr. Delaney's brief, the Commander Islands are specified as belonging to the Aleutian chain. He writes :—

Twenty-five years succeeding the death of Behring, the spirit of discovery had planted the Russian ensign *along the entire Aleutian chain, from Behring's Island to the mainland of the North American continent.*

The "American Cyclopædia," vol. II., page 480, article "Behring Sea," defines that sea as:—

That part of the Pacific Ocean which lies immediately south of Behring Strait, and between the continents of America and Asia. Its southern limit is the curvilinear line of the Aleutian Islands, *which, together with Behring Island, stretch across the Pacific from Alaska to Kamtchatka.*

* * * * * * * *

And under the article "Aleutian Islands," this authority says:—

A chain of islands situated between Alaska and Kamtchatka, and separating Behring Sea from the North Pacific Ocean between latitude 51 and 56 north and longitude 163, 188 west. * * * * * *

The same authority defines Behring Strait as:—

A channel connecting the North Pacific and Arctic Oceans between the continents of Asia and America.

* * * * * * * *

If, then, the Aleutian Islands inclose Behring Sea, and the Commander Islands form a portion of the Aleutian chain, it follows that the vessels seized beyond territorial limits to the south of those islands were completely outside of Behring Sea, and consequently occurred in the main North Pacific Ocean.

Thus Russia after a long interval has again asserted, by the seizure of three British ships, a claim to extraordinary maritime jurisdiction in the North Pacific waters which was never before exercised by that power.

In this connection reference may be made to the seizure of the British schooners "Araunah" by Mr. Grebnitzky in the Russian merchantman "Alexander II." for the alleged violation of the Fishing and Hunting Laws of the Imperial Russian Government on the 1st July, 1888.

At the time of the seizure there existed a diversity of opinion with regard to the distance from land of the vessel when seized.

Upon the protest of the master of the "Araunah" he was informed that the boundary of jurisdiction ran from Cape Lapatka to the Island of Attou.

The master contended that the schooner was not less than six miles from land, while on the other hand it was positively stated by the seizing officer that the vessel was seal-hunting within the Russian territorial waters or Customs limits, and that two of the canoes were within half a mile of the shore. Also that even if the vessel were outside the territorial limit, the fact that her canoes were fishing within three miles without a license rendered her liable to seizure and confiscation according to the municipal law.

The following is the certificate of seizure:—

"Transaction.

"Certificate.

"This day of June 19th, 1888, by a decision of the superintendent of the Commodore Islands, in accordance with the order of the Governor General and the notice issued by the Imperial Russian Government against illegal hunting and fishing within the limits of Russian territories in the Pacific Ocean has been confiscated the schooner 'Araunah,' Siewerd, master, for seal catching near Medney Island within the Customs limited."

* * * *

The notice referred to in this certificate reads thus:—

Notice.

The Russian Imperial Government hereby publishes for general knowledge the following:—

1. Without a special permit or license from the Governor General of Eastern Siberia, foreign vessels are not allowed to carry on trading, hunting, fishing, &c., on the Russian coast or islands in the Okhotsk and Behring's Seas, or on the north-east coast of Asia, or within their sea boundary line.

2. For such permit or licenses foreign vessels should apply at Vladivostock exclusively.

3. In the port of Petropaulovski, though being the only port of entry in Kamtchatka, such permits or licenses shall not be issued.

4. No permits or licenses whatever shall be issued for hunting, fishing, or trading at or on the Commodore and Robben Islands.

5. Foreign vessels found trading, fishing, hunting, &c., in Russian waters without a license or permit from the Governor General, and also those possessing a license or permit who should infringe in the existing by-laws on hunting, shall be confiscated, both vessels and cargoes, for the benefit of the Government. This enactment shall be enforced henceforth, commencing with A.D. 1882.

6. The enforcement of the above will be entrusted to Russian men-of-war, and also to Russian merchant vessels, who for that purpose will carry military detachments and provided with proper instructions.

In a letter from Sir R. Morier to the owners of the "Araunah" dated at St. Petersburg, 30th November, 1888, it is said:—

* * * *

It appears to me that it is of extreme importance to note the exact words of the certificate, which does not state that he confiscated the schooner for being within the customs limit but for seal hunting within the customs limit of Medney Island, now it appears from the description given by Mr. Siewerd that seal-hunting is not performed by the seal schooner themselves but by the canoes which are despatched from them, and I take it that the point that will have to be determined will be whether any of the canoes were within the customs limit.

* * * *

It is quite evident from this language that no thought or suggestion of an offence outside the three mile-limit obtained.

Sir R. Morier proceeds:

In another portion of the petition, however, he (Capt. Siewerd) seems himself in doubt upon the subject: for he says: "if the canoes were found within the custom-house limits the foregoing circumstances would explain their presence there. I would further add with regard to this petition, that Mr. Siewerd protests against the accusation made against the schooner that she was within the custom-house limits, *id est*, less than three miles from the shore." As before stated in the only official document which has been forwarded to me, namely, Mr. Grebnitzky's certificate, this accusation is not made the motive assigned for her seizure, but that she was seal-hunting within those limits.

M. de Giers, the Russian Minister for Foreign Affairs, when called upon by H. M.'s Ambassador for explanations of the circumstances attending the seizure of the "Araunah," on the 4th (16) August, 1889, wrote as follows:—

* * * *

Your Excellency will, I hope, be convinced by them that the conduct of the Russian authorities was perfectly regular. First, as regards the pith of the whole

matter, namely, the confiscation of the British ship; this proceeding is entirely justifiable by the fact that the "Araunah" was engaged in sealing within the limits of our territorial waters.

* * * * * *

It is true that Mr. Siewerd, in spite of the warning, subsequently addressed a protest to the Governor of Vladivostock, in which he asserted that the canoes of the confiscated schooner, which had put to sea after fur-seals, were not within a distance of three miles of the shore. But apart from the question whether the territorial waters only extend to a distance of three miles, the English captain's declaration is valueless for the following reasons:—

* * * * * *

3. Because the superintendent of the Commander Islands affirms categorically that two of the schooners were at a distance of half a mile from the shore, and that two seals not yet disembowelled were found on board the schooner.

And later on, 3rd (15) March, 1890, Mr. de Giers informed H.M.'s Ambassador, in speaking of the powers of Mr. Grebnitzky:—

It is also his duty to see to the application of the regulations which prohibit foreign ships without a special authorization from the Governor General of the Amour, from trading and hunting as well as fishing in the territorial waters of the Commander Islands.

* * * * * *

The steamer "Alexander II.", on board which Mr. Grebnitzky was at the moment of the seizure of the "Araunah," was so charged at this time with the police of the waters of the Commander Islands.

Particular interest attaches to the expressions "territorial waters of the Commander Islands" and to "police the waters of the Commander Islands." These small islands could only have "territorial" waters for a very limited radius, and the waters of Behring Sea—even if they can be asserted to contain these islands wholly instead of the islands being regarded as forming a boundary of that sea—could under no circumstances be regarded as the territorial water of the Commander Islands.

It has already been shown that any extraordinary claim by Russia regarding territorial jurisdiction must be based upon the Ukase of 1821, and be in open repudiation of the Convention of 1825.

Reference to an article which appeared in "Harper's Weekly" of 2nd May, 1891, giving a translation of a paper published in the March number of the "St. Petersburg Journal," said to be the official organ of the Russian Foreign Office, is opportune.

This article referred to the Behring Sea controversy between Great Britain and the United States, and is quite significant as defining the Russian position in regard to claims to excessive jurisdiction. It is given below:—

In order to be able to determine the exact extent of the Imperial rights of the United States over the seas that wash the Alaskan shores, it is necessary to define the waters which can be considered as pertaining to the coast States. In addition to the tracts of water which are located within the territorial boundaries—such as, for instance, rivers, creeks and estuaries—the coast waters, as well as the waters of almost land-locked bays, belong to the coast States. With regard to the bay waters, the boundary is generally defined by means of a straight line drawn from the point of one of the promontories to the other, everything within that line being included in the zone. With regard to the limitation of the coast waters, the most contradictory opinions prevailed until, in the eighteenth century, the famous Dutch Councillor

Bynkershoek put an end to all controversy by formulating the well-known axiom of, 'Dominion terræ finitur, ubi finitur armorum vis.' This was interpreted by some of the experts on international law to mean the range of heavy cannon fired from the shore, while others assume it to denote a distance of three geographical miles. The only correct interpretation, however, and the one which has in late years been endorsed by Harburger, Perels and Binding, is to the effect that the zone of jurisdiction in coast waters is situated at a distance of three geographical miles (equal to one big marine mile) from shore, this being reckoned as the average range of a cannon fired seaward from the beach.

This definition has been recognized and officially accepted as valid by most of the maritime nations. In the official reports of the German Government on the stranding of the steamship "Deutschland," and also in the preface of the Imperial Statutes dealing with maritime disasters, enacted at Berlin, 1877, the three-mile zone is distinctly accepted and recognized as valid. Both England and the United States have repeatedly recognized the legality of the three-mile zone in a similar manner. In the year 1793 the United States of America officially announced that her rule, jurisdiction and possession extended three English geographical miles, or one marine mile out to sea. In the Anglo-American Treaty of 1794, article xvv. recognizes the three-mile zone as well as the cannon range zone, and declares them to be identical. The Anglo-American Treaty of the 20th October, 1818, reiterates the same clause. In the Anglo-French Treaty of the 2nd August, 1839, paragraphs 9 and 10, dealing with the fishery rights in the English Channel, again recognizes the three-mile zone, identifying it with the cannon range zone. Moreover, the English Parliament in 1878 passed a law known as 'The Territorial Waters Jurisdiction Act,' confirming the same definition of the three-mile zone. It is clear, therefore, that the Government of the United States of America has at various times officially recognized and agreed to the legality of the three-mile zone.

The only question which, therefore remains to be dealt with is the claim of the American Government to exercise sovereign power over a tract of the open or high sea, and to monopolize the fishing rights to the exclusion of all other nations.

In the middle ages, and even as late as in the seventeenth century, the claims to exclusive ownership of portions of the ocean and of open or high seas were not unusual. The Republic of Venice claimed the exclusive jurisdiction and sovereignty of the Adriatic. Genoa put forth similar pretensions to the entire Gulf of Lyons. Those of Portugal comprised the entire Indian Ocean, as well as the Atlantic south of the latitude of Morocco. Those of Spain included the whole of the Pacific Ocean and the Gulf of Mexico. Turkey claimed the Black Sea; Denmark and Sweden the Baltic, and England the waters by which it is encircled, as well as the North Sea. Since the beginning of the seventeenth century these views with regard to the high seas have undergone a gradual and at the same time radical change. One of the earliest champions for the freedom of the high seas, and for the equal rights thereto possessed by all seafaring nations, was the historian, Hugo Grotius, whose book, entitled "Mare Liberum," still remains one of the most important and standard works on the subject. An Englishman, John Sheldon, attempted to demolish the arguments of Grotius in a pamphlet, to which he gave the name of 'Mare Clausum.' But his efforts were in vain, and at the present day all jurists and all legislators are agreed that the high seas are free, and that no one possesses the slightest exclusive right to the sovereignty or ownership of any portion thereof. When the United States Government bases its claim on the Ukase of 1821 it is unmindful of the fact that the modern *Jus Gentium*, or law of nations, distinctly denounces claims of this character as illegal, and that if Alaska had remained under Russian rule the Ukase of 1821 would have become invalid and obsolete.

It is worthy of note moreover, that this Ukase of 1821, upon which the United States Government bases its claims, did not remain in force very long. For already three years later, on the fifth of April 1824, we find that our (the Russian) Government signed a Treaty or Convention with the United States dealing with the rights of navigation and fishery on the north-west coast of North America. In this Convention no allusion or reference of any kind is made to the rights claimed

in the Ukase of 1821. On the contrary, it stipulates in Article 1 that the subjects of the two signatory Powers shall in no wise be debarred or prevented from navigating or fishing in any portion of the Pacific Ocean. They are also at liberty to land everywhere, and to trade with the natives.

An absolutely identical clause will be found in Article 1 of the Treaty between Russia and England concerning the north-west coast of North America, which was signed on the 16th February, 1825. It is therefore clearly manifest that at the time of the sale of Alaska to the United States the Russian privileges for exclusive fishing in the Behring Sea, claimed under the Ukase of 1821, had long before been abandoned and passed out of existence. The United States, therefore, has no justification for basing its Behring Sea claims on the alleged possession of these rights by Russia at the time of the transfer of Alaska, for we did not at the time possess any rights or privileges of this character; moreover the pretensions of the United States in this matter are in absolute contradiction to the most elementary principle of international law. That portion of the Behring Sea which falls within the three-mile zone of the American Continent is the only portion of the Pacific Ocean over which the United States possesses sovereign and exclusive fishery rights. That part of the Behring Sea which lies beyond three miles from the American dry land is *Mare Liberum* and its fisheries are free to all nations.

This is a most explicit denial of any rights either of the United States or Russia over the waters of Behring Sea outside the three-mile territorial limit, and at the same time an apparently authoritative announcement that whatever claim may have been asserted by the Ukase of 1821, would long since have become extinct if Alaska had remained under Russian rule.

In a memorandum of Sir Julian Pauncefote to the United States Acting Secretary of State, inclosed in a note of 6th June, 1891, it is established that Lord Salisbury earnestly pressed the United States Government to extend the prohibition under the proposed *modus vivendi* to their citizens and vessels over the entire area of Behring Sea, in which case Her Majesty's Government would on their part similarly extend the prohibition to British subjects and vessels.

About the same time (9th June, 1891) Her Majesty's Government sent the following telegram to the British representative at St. Petersburg regarding the proposed *modus vivendi* prohibiting sealing in the eastern portion of Behring Sea:—

In consequence of the existing statutory limitations to the powers of the United States Executive, Her Majesty's Government propose that there shall be a close time in Behring Sea for this season on land and sea only to the east of the line of 1867.

They are only therefore, asking that Russian subjects shall be forbidden during this year from sealing to the east of that line by sea, as Russia has no land to the east of it; and that we shall be allowed to stop vessels sailing under the Russian flag which are so employed.

But as the United States Government maintain that they have a right to exclude all ships of whatever nation from that part of Behring Sea, they can hardly join in this request without stultifying themselves.

A close time to the east of the line in the result will also recruit the seal fishery to the west of it, and Russia therefore will find her interest in acceding to our request.

To this Her Majesty's Government received the following reply, after a conference between Sir R. Morier and the Russian Minister for Foreign Affairs:

* * * * *

The question of seal hunting in the Behring Sea had formed the subject of continuous negotiation between the United States Government and his own for a very considerable time, and many proposals had been submitted to him by the

United States department, to none of which, however, had he been able to give his assent. So far as he could see, Your Lordship's proposal was very reasonable, and its principle, namely, to give the seal fisheries a year's rest, in order to come to a definite arrangement as to the best means for preventing the destruction of these valuable animals, was one with which he had the fullest sympathy. It was impossible, however, to give me an answer off-hand, because the matter lay not with the Minister of Foreign Affairs, but with that of the Domains. Now, it so happened that quite lately the former contract of the Government with the Alaska Company had terminated, and a new contract with a Russian company had been substituted for it. Whether M. Ostrowski, the Minister of the Domains, would be in a position to put this contract in abeyance for the next twelve months, and whether, if he could, he would be able to do so without bringing the matter again before the Committee of the Ministers, which would require some time, His Excellency could not tell me till he received a reply from his colleague. He had written to him to urge expedition in the matter, and hoped to be able to give me a definite answer by the middle of this week.

The *modus vivendi* was effected and is applicable only to that portion of Behring Sea lying east of the line of demarcation as defined in the Treaty of Cession of 1867.

Great anxiety having been expressed for the welfare of Canadians confined on the coast of Kamtchatka, by their relatives and friends, urgent requests were made to Her Majesty's Government for an amelioration of the reported condition and for their safe conveyance home.

Capt. W. H. Copp, of the schooner "Vancouver Belle," represented to Capt. DeLevron, of the Russian cruiser "Zabiaka," that he found himself and his crew as well as other British subjects—37 in all—thrown upon the foreign shores of Kamtchatka without any opportunity of being able to return home; and that they were entirely destitute.

He therefore suggested that some means should be arranged by which they could be conveyed home, and he proposed that the Russian Commander should fit out one of the sealing schooners which he had recently seized and despatch him in charge to convey the whole party to their homes.

An agreement was consequently entered into between the Russian officer and Capt. Copp, by which in consideration of his conveying the parties to America, the vessel was made over to him for his own use.

The "Rosie Ohlsen" was the vessel chosen, and she was transferred to Capt. Copp under the name of "Prize." She arrived in Vancouver about the 24th September.

The naval authorities at Yokohama telegraphed on the 24th October that the crews of the other seized vessels were returning home on a steamship due on the 29th of that month.

THE NEWFOUNDLAND QUESTION.

At page lxxxviii. of the Report of the Department of Fisheries for 1891, under the heading "The Newfoundland Bait Act," a short history of this question was given.

It terminated with a reference to an opinion that the exaction of license fees was *ultra vires* and illegal and that the amounts paid in each case might be recovered.

In consequence of this opinion a notice was issued calling upon Canadian bank fishermen to file claims for the recovery of license fees exacted by the Newfoundland Government.

Proceedings were instituted on behalf of the owners of Canadian fishing vessels for the recovery back of fees paid to the Government of Newfoundland under the provisions of the Bait Act.

JOINT CASE FOR SUBMISSION TO JUDICIAL COMMITTEE OF HER MAJESTY'S PRIVY COUNCIL.

In the report of last year reference was made to the preparation of a Joint Case on behalf of Canada and Newfoundland, for submission to the Judicial Committee of Her Majesty's Privy Council, under section 4, article 3 and 4, George 4, chap. 41.

On the suggestion of the Secretary of State for the Colonies an invitation was extended to the Newfoundland Government to join Canada in the submission of such a "case."

The Executive Council of Newfoundland, however, declined this invitation on the ground that the interests of that Colony could best be served by an endeavour to maintain the position taken.

CONCESSIONS TO UNITED STATES FISHERMEN IN EXCESS OF THOSE GRANTED BY CONVENTION OF 1818.

It subsequently transpired, that American fishermen were permitted by Newfoundland to fish within the three-mile territorial limit from which they were excluded under the Convention of 1818.

An article published in the St. John's *Evening Herald* of 29th December, 1891, detailed the methods resorted to in this direction in effect as follows :—

These consist in an agreement between parties serving as fishermen on board of United States fishing vessels and the master of the vessel, by which they engage to serve until a fare of herring is obtained, or until the schooner clears or sails, and to aid and assist the crew of said schooner with their labour, boats, nets and other fishing gear to secure and prepare such fare of herring.

They further engage to serve and fish under the direction and command of the master, either on board the schooner or in boats, or on shore, wherever the master may direct.

The master agrees to pay a certain sum for every tub of herring put aboard his schooner, the sum to be divided among the fishermen in proportion to the number of fish caught by each.

A release is given to the master of the vessel from all claims or demands of wages by the men as "recent fishermen" on his vessel.

Following this is the discharge of the fishermen.

An affidavit is made before some competent authority that the herring shipped on board the vessel were caught by the captain and crew, and that the Newfoundland fishermen, as members of the crew, assisted with their labour, boats, nets and other gear in catching and preparing the same.

Finally there is a certificate signed by a competent official of Newfoundland to the effect that the fare was procured within a certain district, and caught by the crew of the said schooner, assisted by native fishermen, and that the same are the product of the American fisheries.

Under such an arrangement as above described, the United States fishermen have the advantage, denied them by the Convention of 1818, relating to the Atlantic fisheries of British North America; while they escape the duty levied by the tariff of their country upon Canadian fish.

They can thus secure all bait supplies necessary for their operations free of charge; and while accorded privileges in common with local fishermen, they have the additional advantage over them in the free admission of fishing gear, &c.

They are also enabled to dictate their own terms by means of the protective duties imposed in the United States upon all fish caught in British waters by British fishermen, which have not been converted into American-caught fish by the expedients thus adopted, as above explained.

PROPOSAL BY CANADA.

Although Newfoundland had refused to take part in the submission of a case to the Judicial Committee of the Privy Council, the Canadian Government prepared such a case and forwarded it to Her Majesty's Government.

Subsequently a telegram was sent to Her Majesty's Secretary of State for the Colonies, from which the following is extracted :—

Appreciating Your Lordship's wishes, and desiring to avoid any estrangement with Newfoundland, they (the Canadian Government) acquiesce in proposal for conference, and will instruct the High Commissioner for Canada accordingly. Pending the result of reference to the Judicial Committee of the Privy Council as to legality of exclusion of Canada from bait, &c., and pending result of proposed conference in London, they suggest that the former status be resorted to, Canadians being allowed bait and bait fishes, same as Americans now. The exceptional duties recently imposed on Canadian imports into Newfoundland to be removed in Newfoundland, and Newfoundland fishing products to be admitted free into Canada, as before.

At the same time it was pointed out that the Government of Newfoundland appeared to be mistaken as to the position of the Government of Canada with regard to duties. No proposition was ever made in Canada to impose exceptional duties on the products of Newfoundland, nor are the duties complained of by the Govern-

ment of Newfoundland exceptional. They are applied to all like products, whatever may be the country of origin. They can be suspended in regard of Newfoundland products only by Newfoundland extending exceptional treatment to exports of Canada.

In this connection a return showing the quantity, value and kinds of fish, fish oil and fish products imported into Canada from Newfoundland, each year, for the past five years, and also the amount of duty thereon which would have been paid if the duties levied upon similar imports from other countries had been levied upon those of Newfoundland, is given :—

Articles.	1887.			1888.		
	Quantity.	Value.	Duty which would have been collected if imported from other Countries.	Quantity.	Value.	Duty which would have been collected if imported from other Countries.
		$	$ cts.		$	$ cts.
Fish skins and fish offal, &c. $		4,035				
do &c., undressed, &c. $					8,398	
Cod, haddock, ling and pollock—						
Fresh Lbs.	30,900	897	154 50			
Dry salted Cwt.	14,514	33,860	7,257 00	25,952	78,574	12,976 00
Wet salted "	40	80	20 00			
Pickled "	48	95	48 00	60	180	60 00
Halibut—						
Fresh Lbs.				7,700	230	38 50
Pickled "	1,200	12	12 00	1,000	10	10 00
Herring—						
Fresh "	460,000	2,600	2,300 00	731,640	4,130	3,658 20
Pickled "	7,076,776	189,715	35,383 88	14,944,252	218,660	74,721 26
Smoked "	600	6	6 00			
Mackerel—						
Fresh "						
Pickled "	1,300	65	13 00			
Sea fish, other—						
Fresh "				350	17	1 75
Pickled "	52,700	2,020	527 00	4,000	1,525	40 00
Preserved "	200	3	0 75			
Oysters—						
Fresh in shell Brls.	1	1	0 25			
Shelled in bulk Gals.						
Lobsters—						
Fresh Brls.				1	3	0 60
do in cans Lbs.	348	32	8 00	27,776	3,424	856 00
Preserved in cans "						
Salmon—						
Fresh "	66	8	8 33	4,117	405	20 58
Smoked "						
Canned "				692	71	17 75
Pickled "	672,975	38,629	6,729 75	616,869	38,747	6,168 69
Fish, not in barrels, Fresh	26,820	1,349	134 10			
do all other—						
Fresh, n.e.s. Lbs.					83	16 60
Pickled "	101,825	3,713	1,018 25	22,600	1,294	226 00
Fish oil—						
Cod Gals.	41,000	18,716	3,743 20	46,696	14,686	2,937 20
Seal "	95,528	43,913	8,782 60	51,092	19,951	3,990 20
Other "	1,806	754	150 80	677	271	54 20
Total		340,503	66,289 41		390,659	105,793 53

Customs Department,
Ottawa, 18th March, 1892.

1889.			1890.			1891.		
Quantity.	Value.	Duty which would have been collected if imported from other Countries.	Quantity.	Value.	Duty which would have been collected if imported from other Countries.	Quantity.	Value.	Duty which would have been collected if imported from other Countries.
	$	$ cts.		$	$ cts.		$	$ cts.
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	7,042	.....	.....	8,756	.....	.....	3,487	.....
43,492	714	217 46	89,222	1,515	446 11	270,542	4,531	1,352 71
23,771	89,691	11,885 50	30,723	119,322	15,361 50	89,571	338,177	44,785 50
1,376	2,847	688 00	13	14	6 50	1,530	6,841	765 00
189	530	189 00	1,823	4,589	1,823 00	123	192	123 00
7,576	378	37 88	3,700	170	18 50	7,995	467	39 98
60,250	610	602 50	8,420	457	84 20	1,350	69	13 50
1,848,400	13,272	9,242 00	836,300	6,729	4,181 50	1,725,250	17,091	8,626 25
16,874,921	263,586	84,374 61	11,371,962	236,152	56,859 81	9,074,922	196,183	45,374 61
2,832	243	28 32	4,700	325	47 00	.....	.....	.....
.....	.....	.....	.....	.....	.....	50	7	0 50
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
900	30	9 00	150	2	1 50	1,597	18	15 97
80	8	2 00	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
4	3	0 40	.....	.....	.....	.....	.....	.....
.....	.....	.....	2	6	1 20	.....	.....	.....
1,000	64	16 00	4,352	955	238 75	49,850	7,532	1,883 00
.....	.....	.....	724	74	18 50	.....	.....	.....
1,387	204	6 94	2,400	222	12 00	3,825	302	19 13
272	26	2 72	.....	.....	.....	.....	.....	.....
1,200	150	37 50	9,100	1,237	309 25	9,275	1,005	251 25
495,905	34,051	4,959 05	236,125	28,920	2,361 25	1,333,310	40,036	13,333 10
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	3	0 60	.....	13	2 60	.....	.....	.....
131,280	5,498	1,312 80	52,300	2,836	523 00	46,400	1,863	464 00
70,849	23,923	4,784 60	43,977	18,013	3,602 60	189,479	65,714	13,142 80
92,130	38,875	7,775 00	59,458	26,709	5,341 80	94,214	37,680	7,536 00
344	130	26 00	160	40	8 00	4,925	1,501	300 20
.....	481,878	126,197 88	.....	457,056	91,248 57	.....	722,696	138,026 50

W. G. PARMELEE,
Commissioner of Customs.

OPERATIONS OF NEWFOUNDLANDERS IN CANADA.

The following list of Newfoundland vessels which fished on the Canadian Labrador during last year will give some idea of the extent to which the Canadian fisheries are resorted to by citizens of Newfoundland :—

List of Newfoundland Vessels fishing on Canadian Labrador, 1891.

	Name of Vessel.	Tonnage.	No. of Crew.	Port of Registry in Newfoundland.
1	Morcelia	31	8	St. George's Bay.
2	Louie	32	8	Burges.
3	Extenuate	29	5	Fortune Bay.
4	Bertha M	20	5	do
5	Lowland	23	6	Burges.
6	Notice	47	8	do
7	Eagle	15	4	do
8	Brothers	21	6	St. Lawrence.
9	Challenge	18	6	Placentia.
10	You and I	28	6	do
11	Three Brothers	21	6	Bonnie Bay.
12	Parsee	21	8	Green's Pond.
13	Bismarck	53	10	do
14	Olive	23	6	Rose Blanch.
15	Manitoba	80	10	Fortune Bay.
16	Polar Bear	50	10	Bonne Bay.
17	Florence	17	5	do
18	Martyr	15	5	Cape Frail.
19	Young Brothers	15	5	Bonne Bay.
20	May Queen	23	6	do
21	Guiding Star	39	9	Green Bay.
22	Lady Ridout	22	8	Bonavista.
23	Mayflower	29	12	do
24	Lily	34	12	do
25	Hiawatha	40	12	Cape Frail.
26	Olivette	43	11	Bonavista.
27	Romeo	44	11	do
28	H. F. Green	15	7	Cape Frail.
29	Escort	59	9	St. George's Bay.
30	Hunter	45	11	Notre Dame Bay.
31	Minnie E. Storey	58	8	do
32	Sea Bride	28	6	Green Bay.
33	Elizzie	19	6	do
34	Stella	36	11	do
35	Elizabeth	29	12	Cape Frail.
36	C. R. Ayer	48	12	Bonavista.
37	Brove	40	8	Catalina.
38	Lily Joyce	20	7	Trinity.
39	Excel	39	11	do
40	Rose Glee	52	11	do
41	Island Bell	49	12	Bonavista.
42	Starlight	27	9	Trinity.
43	Mary Grace	41	11	do
44	Larkspur	45	12	Pindus Island.
45	Maid of the Valley	41	10	Bonavista.
46	Greel Leag	53	12	do
47	Mary	68	12	Trinity.
48	Elizabeth	57	12	do
49	Velox	20	5	do
50	Lushamia	50	11	do
51	Oleander	64	14	Carbonnear.
52	Henry West	67	17	do
53	Francis	12	6	Bonavista.
54	A. W. Dodd	75	18	Carbonnear.
55	Pandora	15	4	Bonne Bay.
56	Jessie	15	4	do
57	Penelope	15	4	do
58	Annie Laurie	15	4	do
59	Feronia	15	4	do
60	Royal Arch	50	11	Trinity.

List of Newfoundland Vessels fishing on Canadian Labrador, 1891—*Concluded.*

Name of Vessel.	Tonnage.	No. of Crew.	Port of Registry in Newfoundland.
61 Bay State	50	13	Harbour Grace.
62 Aaron Perkins	43	7	Burin.
63 Jessie	42	12	Bonavista.
64 Wm. Mitchell	41	5	Fortune Bay.
65 Esther Thibault	51	5	do
66 Lady Thorburn	60	10	Trinity.
67 Nellie	47	10	do
68 Billow	65	12	do
69 Seaway	50	15	do
70 Water Lily	40	10	do
71 Jessie	48	12	Carbonnear.
72 Maude	35	15	Harbour Grace.
73 Orange Lily	10	5	Trinity.
74 Here I Am	15	5	do
75 City Point	48	12	Carbonnear.
76 Jim	38	9	Hau Harbour.
77 Mary S. Jane	31	5	Fortune Bay.
78 Little Gem	44	6	Burin.
79 Mervyn	33	5	do
80 Forest Bell	40	10	Trinity.
81 Kestrell	38	11	do
82 Starlight	40	9	do
83 M. Florence	36	8	Fortune Bay.
84 Olovia	48	11	Conception Bay.
85 Ernest	45	8	Trinity Bay.
86 Ocean Queen	38	11	Bonavista.
87 Delta	67	9	Green Bay.
88 Queen of the Fleet	56	11	Green Pond.
89 Violet	25	11	Bonavista.
90 Pearl	40	11	Trinity.
91 Druid	70	14	do
92 Annie	68	14	do
93 Speedy	33	6	Burin.
94 Flying Cloud	18	5	do
95 Ruby	30	9	Trinity.
96 Sweet Briar	30	7	Burin.
97 Juliette	38	9	Bonavista.
98 Constance	49	13	Green Pond.

The statement below shows the number of fixed establishments owned by Newfoundlanders, with the number of employees engaged last year in fishing in whole or in part, within waters adjacent to Canadian Labrador :—

Locality.	Name of Owner.	Manager.	No. of men employed on room.
Greenly Island	Jobb, Bros. & Co.	Samuel Blandford	100
Gulch Cove	Stone & Co.	A. Stone	25
Bradore Bay	Penny, Bros.	Capt. Penny	25
Middle Bay	Smith & Pilly.	Capt. Smith.	50
Salmon Bay	Jobb, Bros. & Co.	Capt. Brown	75
Bonne Esperance	do	W. Whitely.	200
Sundry small stations			25
Total			500

Canada's offer for a *modus vivendi* by which the former status would be resorted to, that is to say, that Canadians should be allowed to procure bait and bait fishes

the same as United States fishermen without charge for licenses, the exceptional duties on Canadian imports into Newfoundland to be removed and Newfoundland fishery products to be admitted free into Canada, was communicated by Her Majesty's Government to the Government of Newfoundland.

SUGGESTED CONFERENCE.

Subsequently the following telegraphic message was sent by His Excellency the Governor General of Canada to the Governor of Newfoundland :—

16th April, 1892.

Canadian Government learn that Secretary of State for the Colonies has communicated to you the substance of communications between the Colonial Office and this Government. Canada proposes to place the matter definitely before your Government, that both countries shall, during the present season, resume and retain the *status quo* anterior to the enforcement of the Bait Act.

Meantime efforts towards settlement of difficulties may be made in such manner as the two countries shall agree upon. For this purpose the Government of Canada suggests a conference either in America or England at a convenient time. The latter country would be preferred, so as to enable an English representative to take part in the conference.

About this time Mr. Harvey, a representative of the Newfoundland Government, was in London, and it was proposed that the High Commissioner for Canada should represent the Canadian Government at a conference there on the subject.

Prior to final arrangements, however, the Newfoundland representative had left for home, and a conference in London at that time became impracticable.

SUBMISSION OF CASE TO JUDICIAL COMMITTEE OF PRIVY COUNCIL.

The Secretary of State for the Colonies, on the 9th April, 1892, stated that after a careful consideration of the papers, it was thought that Her Majesty's Government would not be warranted in placing an *ex parte* statement of the controversy, before the Privy Council, and some other method of treating the legality of the action of the Newfoundland Government was suggested.

To this it was replied that every expedient had been tried without result ; that the suggestion of reference to the Judicial Committee of Her Majesty's Privy Council came from Her Majesty's Government, and it was pointed out that the consent of Newfoundland did not appear to be necessary.

The case was not strictly *ex parte*. It involved no dispute touching the facts.

NEGOTIATIONS FOR MODUS VIVENDI.

On the 21st May, 1892, the following message was received from the Governor of Newfoundland :—

My Government agree in order to meet the views of Her Majesty's Government as contained in despatch from Colonial Office dated 7th instant, and telegram of 16th ultimo, to revert pending conference to the *status quo* of 1889 for the current year.

Additional duties on Canadian products will be removed on thereceipt of intimation that your Government have removed duties on Newfoundland products.

On the 22nd May, the following telegram was sent to the Governor of Newfoundland :—

The Canadian Government has received your message with satisfaction.

A proclamation suspending duties on Newfoundland fish and fish products is being prepared, but under the Statute it should recite that Newfoundland duties have been reduced. It is hoped that your Government will be able to announce without delay the removal of the additional duties.

Arrangements will be made to effect complete reciprocity in remission of duties in the meantime.

It transpired that the duties under the Newfoundland Revenue Act came on automatically, with the exaction of duties on Newfoundland fish coming into Canada, and it was stated that when such duties were removed by Canada, they would in like manner be removed by Newfoundland.

A suggestion of a formal notice of intention to reciprocally remove duties was made. If any difficulty arose both Governments could fix a date for removal simultaneously of imposition of duties on respective products.

The Newfoundland Government agreed to mutual notice to remove duties on and after the 27th day of May, 1892.

This arrangement was accepted by the Government of Canada on the understanding that while Newfoundland contemporaneously removed duties mentioned, she would also remove restrictions as to bait and bait fishes.

A despatch was received from Sir Terence O'Brien, dated 27th May, 1892, as follows:—

Notice inserted in *Gazette* to-day that extra duties levied under section 13, Revenue Act, 1891, will not be collected on and after this date. Dominion Government having removed duties on fish and fish products exported from Newfoundland into Dominion of Canada, notice has been given by telegraph to officials to grant bait licenses to Dominion fishermen upon same terms as to Newfoundland fishermen, giving similar bonds.

This was replied to as follows:—

Dominion Government agree to remove duties on and after 27th May, on the understanding that on 27th May, Newfoundland Government do likewise and also remove restrictions as to bait fishes. Please telegraph as soon as instructions are issued; but our proclamation will issue on 27th May on the assumption that the agreement has been carried out by Newfoundland.

In accordance with the agreement then reached, the following proclamation was published in the *Canada Gazette*:—

Stanley of Preston.

[L.S.]

CANADA.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, &c., &c., &c.

To all to whom these presents shall come, or whom the same may in anywise concern,—GREETING:

A PROCLAMATION.

JNO. S. D. THOMPSON, Attorney General, Canada. } WHEREAS by chapter 33 of the Revised Statutes of Canada, "An Act respecting the Duties of Customs," section 3, it is enacted that fish and other products of the fisheries shall be chargeable with and there shall be collected thereon the rates of duty set forth and described in schedule B to the said Act and set opposite to each of them respectively: Provided, that the whole or part of the

duties imposed by the said section may be remitted as respects either the United States or the Island of Newfoundland, or both, upon proclamation of the Governor in Council, which may be issued whenever it appears to his satisfaction that the Governments of the United States and the Island of Newfoundland, or of either of them, have made changes in their tariffs of duties imposed upon articles imported from Canada in reduction or repeal of the duties in force in the said countries respectively:

And whereas it has been made to appear to the satisfaction of Our Governor General in Council that the Island of Newfoundland has made changes in its tariff of duties imposed upon certain articles imported from Canada in reduction of certain duties heretofore in force in the said Island,—

Now Know Ye that We have thought fit to proclaim, order and declare, and it is hereby ordered and declared, by and with the advice of Our Privy Council for Canada, that the duties imposed by the said Act upon fish and other products of the fisheries hereafter imported into Canada from the Island of Newfoundland aforesaid are hereby remitted.

Of all which Our loving subjects and all others whom these presents may concern, are hereby required to take notice and to govern themselves accordingly.

In Testimony Whereof, We have caused these Our Letters to be made Patent and the Great Seal of Canada to be hereunto affixed. Witness, Our Right Trusty and Well-Beloved the Right Honourable Sir Frederick Arthur Stanley, Baron Stanley of Preston, in the County of Lancaster, in the Peerage of the United Kingdom; Knight Grand Cross of Our Most Honourable Order of the Bath; Governor General of Canada.

At Our Government House, in Our City of OTTAWA, this TWENTY-SEVENTH day of MAY, in the year of Our Lord one thousand eight hundred and ninety-two, and in the Fifty-fifth year of Our Reign.

By Command,

J. C. PATTERSON,
Secretary of State.

This proclamation was communicated to the collectors of customs of the different Canadian ports affected in the following manner:—

Customs Department, Ottawa, 27th May, 1892.

Collector of Customs,

Port of.....

Sir,—I have to call your attention to a proclamation bearing even date, a copy whereof is hereto attached, under authority of which duty on fish and other products of the fisheries, as per provisions of Schedule B of the Customs Tariff now in force, comprising items numbers 650,487*a* to 665,503*a* inclusive, is not to be exacted when hereafter imported into Canada from the Island of Newfoundland.

W. G. PARMELEE,
Commissioner.

The schedule of articles so affected is as follows :—

SCHEDULE B.

Duties on Fish and Products of the Fisheries.

Departmental Number.	Acts Number.		
650	487*a*.	Mackerel, one cent per pound	1c. p. lb.
651	488*a*.	Herrings, pickled or salted, one-half cent per pound	½c. p. lb.
652	489*c*.	Salmon, pickled or salted, one cent per pound	1c. p. lb.
653	490*c*.	All other fish, pickled or salted, in barrels, one cent per pound	1c. p. lb.
654	491*a*.	Foreign-caught fish, imported otherwise than in barrels or half-barrels, whether fresh, dried, salted or pickled, not specially enumerated or provided for by this Act, fifty cents per hundred pounds	50c. p. 100 lbs.
655	492*a*.	Fish, smoked and boneless fish, one cent per pound	1c. p. lb.
656	493*a*.	Anchovies and sardines, packed in oil or otherwise, in tin boxes measuring not more than five inches long, four inches wide and three and a half inches deep, five cents per whole box; in half boxes, measuring not more than five inches long, four inches wide and one and five-eighths deep, two and a half cents per half box; and in quarter boxes, measuring not more than four inches and three-quarters long, three and a half inches wide and one and a quarter deep, two cents each per quarter box	5c. p. box. 2½c. p. half box 2c. p. quarter box.
	494*a*.	When imported in any other form, thirty per cent *ad valorem*	30 p. c.
657	495*a*.	Fish, preserved in oil, except anchovies and sardines, thirty per cent *ad valorem*	30 p. c.
658	496*a*.	Salmon, and all other fish prepared or preserved, including oysters, not specially enumerated or provided for in this Act, twenty-five per cent *ad valorem*	25 p. c.
659	497*a*.	Oysters, shelled, in bulk, ten cents per gallon	10c. p. gall.
660	498*a*.	Oysters, canned, in cans not over one pint, three cents per can, including the cans	3c. p. can.
661	499*a*.	Oysters, in cans, over one pint, and not over one quart, five cents per can, including the cans	5c. p. can.
662	500*a*.	Oysters, in cans, exceeding one quart in capacity, an additional duty of five cents for each quart or fraction of a quart of capacity over a quart, including the cans	5c. p. qt.
663	501*a*.	Oysters, in the shell, twenty-five per cent *ad valorem*	25 p. c.
664	502*a*.	Packages containing oysters or other fish, not otherwise provided for, twenty-five per cent *ad valorem*	25 p. c.
665	503*a*.	Oil, spermaceti, whale and other fish oils, and all other articles the produce of the fisheries, not specially provided for, twenty per cent *ad valorem*	20 p. c.

CONFERENCE.

The negotiations have resulted in the arrangement for a Conference at Halifax at which it is expected that conclusions will be reached which will effect a satisfactory conclusion of the matters at issue between the two Colonies.

INTERNATIONAL ACTION FOR PROTECTION OF FISH IN WATERS ADJACENT TO THE UNITED STATES.

In the Annual Report of the Department of Fisheries for 1891, at page xliii, under the heading "International Legislation," this subject was dealt with somewhat fully, and the necessity for some concerted policy in the interests of the fisheries and fishermen was shown to be apparent by the diminution of marketable fishes and the deterioration of the quality thereof, in waters which might be called common to the fishermen of both countries.

It was shown that the restrictions imposed by the Canadian Government on the fisheries of the Dominion, with very few exceptions, were much better enforced and were of a much more provident character in adjacent waters than those of the neighbouring Republic.

This will be found to be more particularly the case in the deep-sea fisheries, and the fact is appreciated by the United States authorities themselves.

In a report by the "United States Commission of Fish and Fisheries, Report of the Commissioner for 1886," page 156,* under the heading of "Maintenance and Improvement of Fisheries," sub-head "Legislation," will be found the following statement :—

There is perhaps no nation in the world where there are fewer regulations and restrictions in regard to the sea fisheries than in the United States, no response having been made either by the general Government or by the Senate to the numerous appeals to take the subject under their jurisdiction, and to prevent what is claimed to be improper methods or unseasonable times of capturing fish, or undesirable modes of preserving them.

The report proceeds to explain that the Norwegian, Dutch, English and French Governments had so some extent adopted measures to prevent encroachments upon their fisheries, and adds :—

The United States, however, has never had any provision of this kind, but has allowed the sea fisheries to regulate themselves entirely.

The decline of the mackerel fishery on the Atlantic coasts of both the United States and Canada, calls for joint action on the part of the two countries affecting both the territorial waters and the fisheries outside thereof used concurrently by both fishing fleets.

The necessary legislation in this connection should be in the direction of restricting or altogether prohibiting the use of the destructive purse-seine in the capture of this valuable fish.

Canada has already prohibited its use within her territorial waters, and the United States Government has prohibited the landing of mackerel caught with the purse-seine prior to 1st June in order to afford the spawning fish an opportunity for reproduction. This, coupled with the withdrawal of the United States seining fleet from the Canadian inshore fisheries since the termination of the Fishery Articles of the Treaty of Washington, in 1885, has resulted in a palpable improvement in the Canadian mackerel fishery.

Whether or not further restrictions in the same direction would have a correspondingly beneficial effect is a matter for the consideration of any commission which may be appointed to inquire into the whole question of International Legislation.

Passing from the sea fisheries, the United States report above quoted at page 157, says :—

There is, however, a plea for the interference of the Government in certain cases in regard to the fisheries that belong to the rivers, or are near the shore, and thereby most specially related to the adjacent commonwealth. Nearly all civilized nations have looked with more or less care after their interior or river fisheries, and quite a number of the States of the American Union have their own special inactments on this subject.

The pollution of rivers by refuse from saw-mills and manufactories of all kinds, as well as obstruction of the passage of anadromous fishes to and from their spawning grounds are features of considerable importance in the question of international protection.

*Senate Mis. Doc. No. 90, 44th Cong., 2nd Session.

On the former of these abuses various opinions have from time to time been expressed, but there can now be little doubt that the preponderance of intelligent opinion will serve to prove that where the waters are not sufficiently polluted and poisoned to become dangerous to fish life as is likely to be the case from the refuse of gas works, woollen mills and other manufactures in which lime, chemical substances, dye stuffs and like deleterious matter is used, the formation of deposits of sawdust upon the spawning beds, renders these haunts unfit for the purposes for which they are sought by the fish, and in the event of the fish spawning thereon, there can be little doubt that the polluted grounds will become destructive of the ova deposited thereon.

The next of these evils—the obstruction to the passage of fish to their spawning grounds—is perhaps one of the gravest which has to be contended with.

There are three principal causes:

1st. Barriers formed by artificial dams necessary to manufactories of various kinds.

2nd. Natural barriers, such as falls, shoals, &c.

3rd. Excessive numbers of fishing engines in the estuaries of rivers and very often in the rivers themselves. In Canada, however, netting of all kinds above tidal water is practically prohibited.

Neither of the above principal causes is irremediable.

The Canadian laws provide for the maintenance of efficient fishways in artificial barriers; the natural obstruction can be removed at greater or lesser expense, and the excessive fishing in the estuaries and tideways can readily be regulated under the existing statutes.

The report of the United States Fish Commission already cited on the questions of pollution and obstruction says:—

Again the question of the pollution of rivers is one that comes up for consideration, in many cases the introduction of sawdust or the refuse from gas or manufacturing establishments being prohibited or controlled.

Other States again require from the proprietors of artificial dams the introduction of some device by which shad, salmon, and other fish may ascend and thus be enabled to reach their spawning grounds. * * * * * *

If the anadromous fish are prevented from access to their spawning beds, it is within the power of a single person to destroy fisheries of immense value and to deprive a large portion of the community of a wholesome food and an important means of support.

These conditions of protection and regulation, while they cannot be said to apply at all to the deep-sea fisheries, have comparatively little reference to the inshore sea fisheries. But even here we readily imagine that State action, if not that of the general Government, is desirable. The most important point in this connection is the protection of the spawning grounds (when they can be definitely ascertained) from pollution by the introduction of noxious substances and from the disturbing influences of fishing or other operations. * * * * *

Serious complaints from Canadian fishermen in inland waters have invariably followed the promulgation of wholesome regulations designed to protect their interests. The principal objections which have been advanced being the absence of similar regulations on the United States shores and consequent inequality of their position.

This objection, however, is perhaps not so well taken as would appear at first sight, as although perhaps not so strictly enforced as are the Canadian inland fishery regulations, there are, nevertheless, in existence a considerable number of restrictions passed by the legislatures of the States bordering on the great inland lakes, used in common by the United States and Canadian fishermen, viz., Superior, Huron, Erie and Ontario.

There can be no doubt, however, regarding the desirability of some joint action on the part of the authorities of the adjoining countries, both in the direction of devising new and supplementary prohibitory and protective measures, and providing for the enforcement of the same together with those which are at present in existence.

One great difficulty which has hitherto beset international action is that while the regulation of the fisheries of the United States appear to be vested in the respective State Legislatures, the power to effect international legislation lies alone with the Federal Government of that country, which, in turn, could not deal in diplomatic matters with Canada except through the Government of Her Britannic Majesty.

In the report of the previous year the question was dealt with under the following headings :—

1. Close Seasons.
2. Pound-Net Fishing.
3. Purse-Seines.
4. Sawdust and Pollution of Streams.
5. International Legislation.

Therefore, in the present instance the subject has been touched upon generally as involving international action towards an amelioration of the condition of the fisheries in waters adjacent to the United States and Canada.

At a conference held in Washington during the spring of the present year (1892) between the delegates from the Canadian Government and the Secretary of State of the United States respecting the extension and development of trade between the United States and the Dominion of Canada, and other matters, among other things the following proposal was submitted :—

It is proposed that a commission of two experts shall be appointed, one by the Government of the United States and one by the Government of Great Britain, to consider and to report to their respective Governments (either jointly or severally) as to the restrictions and regulations which should be adopted on the following subjects :—

1st. The prevention of destructive methods of fishing in the territorial and contiguous waters of the United States and Canada respectively, and also in waters outside the territorial limits of either country.

2nd. The prevention of the polluting and obstructing of such contiguous waters to the detriment of the fisheries and navigation.

3rd. The close seasons which should be enforced and observed in such waters by the inhabitants of both countries.

4th. On the subject of restocking and replenishing such contiguous waters with fish ova and the means by which fish life may be therein preserved and increased.

In September, inquiry was made of the United States authorities as to when it was proposed by them to appoint an expert to deal with the subject of the above quoted proposal.

About the same time a communication was received through the Colonial Office to the effect that the United States Secretary of State had announced that the Fish Commissioner had been absent from Washington, and as it was necessary to consult him on the question of detail he feared the convention could not be proceeded with until his return at the end of September, when endeavours would be made to complete the convention with as little delay as possible.

Promptly following this communication is another from United States Secretary of State General the Honourable John W. Foster, dated 4th October, 1892. General Foster, after referring to the proposition above quoted, points out that the several lines of inquiry indicated come, so far as the United States is concerned, within the scope of the operations conducted for years past by the United States Fish and Fisheries Commission, which in its operations has accumulated a mass of information, much of which would be available in the premises, and that the commission was possessed of resources necessary for any further inquiries without the appointment of a special commission.

Understanding that similar conditions existed in Canada, and as the necessary machinery and considerable of the data requisite to a joint investigation were already available, speedier results could be attained by their utilization, Mr. Foster proposed the following basis for an agreement to be reached by a diplomatic exchange of notes :—

I. The Governments of the United States of America and of Her Majesty the Queen of the United Kingdom of Great Britain and Ireland agree that a commission of two experts shall be appointed, one on behalf of each Government, to consider and report to their respective Governments—either jointly or severally, or jointly to both Governments, with regard to matters in which they may be in accord, and severally to their respective Governments with regard to matters of non-concurrence—concerning the regulations, practice and restrictions proper to be adopted in concert, on the following subjects, viz. :—

(*a.*) The limitation or prevention of exhaustive or destructive methods of taking fish and shell-fish in the territorial and contiguous waters of the United States and Her Majesty's possessions in North America respectively, and also in the waters of the open seas outside the territorial limits of either country to which the inhabitants of the respective countries may habitually resort for the purpose of such fishing.

(*b.*) The prevention of the polluting or obstructing of such contiguous waters to the detriment of the fisheries or of navigation.

(*c.*) The close seasons expedient to be enforced and observed in such contiguous waters by the inhabitants of both countries as respects the taking of the several kinds of fish and shell-fish.

(*d.*) The adoption of practical methods of restocking and replenishing such contiguous and territorial waters with fish and shell-fish, and the means by which such fish life may be therein preserved and increased.

II. The Commissioners to be appointed shall meet at the city of Washington within three months from the date of this present agreement, and shall complete their investigation and submit their final reports thereof, to the two Governments as herein provided, within two years from the date of their first meeting.

III. The contracting Governments agree to place at the service of the said Commissioners all information and material pertinent to the subjects of their investigation which may be of record respectively in the offices of the United States Commission of Fish and Fisheries, and in the Department of Marine and Fisheries of the Dominion of Canada; and further to place at the disposal of said Commissioners, acting jointly any vessel or vessels of either of said Fish Commissions of the United States and of Canada as may be convenient and proper, to aid in the prosecution of their investigation in the contiguous or adjacent waters aforesaid.

It is further agreed that, if required by either or both of the said Commissioners, a competent employee of either or both of the said Fish Commissions of the United States and of Canada shall be detailed to assist the said Commissioners in the preparation of their reports.

IV. Each Government shall defray the expenses of its Commissioner, and of such employee as may be detailed to assist him as provided in the preceding section.

V. The two Governments agree that so soon as the reports of the Commissioners shall be laid before them as aforesaid, they will consider the same and exchange views thereon, to the end of reaching if expedient and practicable, such conventional or other understanding as may suffice to carry out the recommendation of the Commissioners, by treaty or concurrent legislation on the part of the respective governments or the legislatures of the several states and provinces, or both, as may be found most advisable; but nothing herein contained shall be deemed to commit either Government to the results of the investigation hereby instituted.

General Foster's proposition covers all that was contemplated in the proposal submitted to the Conference, and it provides a comparatively speedy and effective method of dealing with a question which has been so long pending and which it is desirable to adjust.

This proposition being acceptable to the Canadian Government, it is not unreasonable to look for results of great importance to those interested in the fishing industry of both countries.

In this connection, attention is directed to the following extract from the eleventh biennial report of the Fish Commissioners for the State of Vermont for the year 1892:—

Uniformity of Laws.

When similar conditions and seasons prevail in neighbouring States the operation of the laws for the protection of the fish and game which inhabit such States should be uniform. Many departures from this rule occur in the operation of the laws as between Vermont and the states and provinces contiguous thereto.

As an illustration, the close season for black bass in Vermont ends fifteen days earlier than in New Hampshire, and the citizens of the former State can take bass from the Connecticut when it is unlawful to do the same thing from the New Hampshire side of the same waters. In fact it is a question whether it is illegal in Vermont to take bass from the Connecticut at any season, as Sec. 3873, R. S., relates to the protection of black bass "in the waters of the State," but the west bank of the Connecticut River is the east line of Vermont.

While the above mentioned defects have been the subject of remonstrances from the Fish Commissioners of New Hampshire, they are lost sight of when the condition of affairs in the waters of Lake Champlain, bordering on the Dominion waters of the same lake is brought to the attention of the Commissioners by the lack of uniformity of existing laws for the protection of fish in these contiguous waters, resulting in a serious injustice to the citizens of Vermont.

Reference is made to the Canadian custom of licensing fishermen to catch fish by the use of seines in the Dominion waters of Lake Champlain, generally known as Missisquoi Bay. While only a small portion of Lake Champlain is in Canada, the Canadian portion appears to be the spawning grounds for nearly all the wall-eyed pike of the entire lake.

While tons of these fish are taken in seines on their way to and from the spawning grounds in Dominion waters, it is not lawful to take them in any manner in Vermont waters, or to have them in possession.

With this condition of things, our laws are not sustained by public opinion, and consequently it is impossible to enforce the laws against netting in waters contiguous to Canada without great and unwarranted expense.

The Commissioners do not intimate that the laws of Vermont for the protection of fish in Lake Champlain are defective or perfect, but that the Canadian laws should be in unison with them. Much correspondence on this subject has been carried on between the Commissioners and the Canadian authorities. Finally a full statement of the case was communicated to the Hon. John W. Foster, Department of State, Washington, D.C., and the United States Government is now considering the question with the Government of Canada. The Commissioners entertain hopes that this correspondence will result in necessary measures being taken for the protection of fish in the waters contiguous to the two countries.

FISHING RIGHTS IN THE INLAND AND NON-NAVIGABLE WATERS OF THE PROVINCE OF QUEBEC.

In view of the action of the Quebec Government in assuming control over the inland fisheries of the Province of Quebec, as well as of that portion of the Richelieu River between Chambly and St. John's, where important eel fisheries exist, the Government of the Province of Quebec were invited to consider a proposition by which the Dominion Government should administer all of the fisheries in the above-named province, so far as the regulating, leasing and licensing of them was concerned, pending a reference to be made of the question of jurisdiction, generally, to a Judicial Committee of the Privy Council. Should it be subsequently decided that Canada had not the right to lease or license these fisheries, then all money which may have been received under such leases or licenses would be accounted for to the Province of Quebec, thereby saving much expense to the Dominion and Local Governments.

This proposal was declined.

In connection with this matter, it may be remarked that the Dominion Government has always been anxious to have this question of fishing rights in the inland and non-navigable waters of Canada, as well as the question of respective jurisdiction of the Local and Federal authorities in connection therewith, settled in a definite manner.

Since the decision of the Supreme Court of Canada in the case of *Queen vs. Robertson*, some of the Provincial Governments have claimed that the exclusive right of fishery on inland lakes and non-navigable rivers is vested in their respective legislatures. A more satisfactory definition of the jurisdiction of the Local and Federal authorities is desirable, in order to obviate, if possible, the anomaly now resulting from a double claim over the same waters.

To this end, the Minister of Justice has been requested to arrange for the submission of a case to the Judicial Committee of Her Majesty's Privy Council, in order that a decision may be obtained and the matter finally set at rest.

REPORT OF THE STATE OF NEW YORK COMMISSIONERS OF FISHERIES FOR THE YEAR ENDING 30TH SEPTEMBER, 1891.

This report contains information of general interest on the fish-car used by the commission for the distribution of fry, fishways, lobster hatching, pollution of water, &c., a few extracts of which are herewith given:—

FISH-CAR FOR DISTRIBUTION OF FRY.

It is believed that no charge will be made by the railroads of the State for hauling the car, and the incidental expense of distribution will be but slight. The

transportation of fry will be much more satisfactorily made by this special car than was possible in the old way. It was almost impossible to obtain ice and keep the water properly aerated in the baggage or express cars on ordinary trains, and the attendants were frequently seriously hampered.

The new cars offers great advantages in room and proper appliances, and the fry will undoubtedly thrive better than before.

FISHWAYS.

The commissioners again recommend the passage of a general fishway law, making it obligatory to place fishways, where necessary, in dams located in the waters of the State. Discretionary powers, as to establishment of these fishways, to be vested in the Commissioners of Fisheries, and an appeal from their decision to be allowed to a committee of arbitration. Similar laws are in force in Maine, Illinois and Canada, and have worked well. There are many streams in this State that were formerly famous for their fisheries, but that are now, practically, without fish, because of the artificial obstructions that have been placed in the ways of their ascending the streams to spawn. A case in point is that of Cattaraugus Creek, for which fishways were ordered built by the last Legislature. A number of years ago, this creek was noted for its quantities of fish. Of late years, however, they have become almost extinct, and this was caused, without doubt, by the dams in the river, and there are many other streams in like condition.

The dam at Fort Edward is now rebuilt, and of course it stops the salmon until a fishway is put in. The man who killed the salmon says the pools before the falls was filled with salmon; and from his statement, there must have been hundreds in the pool.

LOBSTER HATCHING.

A successful beginning has been made in procuring the eggs of this valuable crustacean, and we now think that in future we will be able to save many hundreds of thousands of eggs which would otherwise be boiled with the lobster and thrown away with the shells. We only turned out 27,500 young, but it was late in the season before we struck the source of supply, and it has been proved that we can handle the eggs successfully, if we get good ones. Heretofore, we have tried to get them from Fulton Market, but one of three things had occurred to weaken the embryo to an extent that was fatal, even though it lived to burst the shell. These were: retention in bad water in the slips; icing the parent to retard its circulation and prolong its life, and the drying out and consequent indentation of the eggs by exposure to the air. It has taken several year's study of the condition under which the eggs had been kept, and comparison of their condition as embryos, to get at the reason why we were not successful in hatching, for other questions came in, such as the temperature of our water, its density, and its being pumped into a reservoir on the hill, any of which might be the cause of failure. All was in doubt, and though clear now, it has taken several years to find out what was the trouble with our lobster eggs.

The State Fishery Commission has been successful in hatching lobsters from eggs obtained from Martha's Vineyard, although many were spoiled in transit. Ten thousand were planted in Cold Spring Harbour lately, and, as we write, there are 50,000 eggs in the hatching jars. Superintendent Mather has sent the naphtha launch "Rutifer" to New Rochelle for more eggs, and it is expected that a large percentage will be turned out from these, which are obtained nearer home and have not been roughly handled by expressmen.

The "Rutifer" went to New Rochelle on 26th June, in charge of Mr. C. H. Watters, and got of Messrs. Baker Bros., dealers in sea-food, the eggs from four lobsters, without other expense than his time and a few gallons of naphtha. He brought back 42,630 eggs, by measure, one-fourth being bad by reason of being too ripe and hatching and drying on the way. From these, we planted 17,700 young ere season closed.

At Wood's Hall, I picked up the following information concerning lobster culture at that station from Mr. John Maxwell, the superintendent:—The first eggs were taken this year on April 12, but were not hatching on May 14, the day of my visit. When the temperature of the water gets up to 58° Fahr., they will hatch in a few days; therefore, their period of hatching differs in different localities.

The eggs measure 6,090 to the ounce, and twelve ounces only are placed in a Macdonald hatching jar, because the pressure at Wood's Hall is only sufficient to overcome the specific gravity of that number. On this basis all our estimates were formed, and my limited experience confirms what Mr. Maxwell told me.

He also gave me from his books the following extracts, which show the average results in lobster hatching at Wood's Hall:—

1889.	No. of Lobsters.	No. of Eggs.	Average per Lobster.
April 16	18	171,240	9,513
June 23	23	364,610	15,852
Total	41	435,850	10,630

In 1890, from 723 lobsters were taken 8,317,640 eggs, or 11,500 per lobster, which gives us leave to roughly average the yield at 10,000 each. From the eggs of 1890, there were hatched 4,511,000—over fifty per cent.

One day, about the middle of August of this year, Mr. William Gardiner, an oysterman of this place, brought me a young lobster about an inch and a half long, which he took near the place where our first plant was made in June.

It will be remembered that I made a plant of lobsters in Cold Spring Harbour in 1886, and 'Shooting and Fishing' of June 25, 1891, in speaking of our work this year, says:—

"Ten thousand young lobsters were hatched at the Cold Spring Harbour Station of the New York Fish Commission and turned into the Sound, June 15. It is reported that this is the best lobster year from Lloyd's Neck to Northfort, on the north shore of Long Island, that has been known in thirty years, and it is assumed that this is owing to a plant of young lobsters made from Cold Spring Harbour, in 1886. That year, Mr. Mather obtained from the Wood's Hall Station of the United States Fish Commission 50,000 lobster eggs and 5,000 young lobsters, which he took to his station. The eggs died in transit, and the young lobsters at shedding time devoured each other until but 4,000 were left, and these were planted on the north shore of Long Island, where the lobster was practically extinct. So, the north coast of Long Island is indebted to the United States Fish Commission for its lobsters, as is the western shore of the United States. By the way, one of the best papers in the last Bulletin of the United States Fish Commission (vol. viii, 1888) is that of Dr. Richard Rathbun, entitled 'Transplanting of Lobsters to the Pacific Coast of the United States.' It relates in detail to the five trials made to transport lobsters across the continent, which resulted in planting 590 adult lobsters and 104,000 embryos in the waters off the coast of California and Washington."

POLLUTION OF WATERS.

The Commissioners especially regret the partial failure of their shad hatching operations, as no feature of their work has been of more value and none has been more appreciated.

In order that the Commissioners might obtain, if possible, the causes that led to the diminished run of shad during the present season, they have instituted a careful investigation, and have obtained all the information available.

Special agents of the Commission have interviewed the principal shad fishermen from Sandy Hook to the State dam at Troy.

The result of these interviews would seem to show, without doubt, that the cause of this partial failure was due principally to the flagrant violations of the law forbidding the dumping of garbage in the bay and harbour of New York.

The fishermen report that in the morning they frequently found their drift nets filled with mud and refuse which had evidently been dumped the night before.

As the refuse is light, it should easily have been carried by the tide and long distance before it finally sank, and it might have happened that shoals of fish, coming in the bay, were driven back into the ocean by striking this mass of refuse floating to the sea.

In connection with the above matter, the following article from the San Francisco *Chronicle* shows the injurious effect of pollution of streams by sawdust, and the improvement which may be expected in the reproduction of fish, so soon as the nuisance is put a stop to:—

A RECLAIMED TROUT RIVER.

Mr. George T. Mills, the Nevada Fish Commissioner, has given the writer an account of how the Truckee River has been made to abound with fish again, principally trout. He says: —

A few years ago fishing was about spoiled on the Truckee. There were six large mills dumping sawdust into the river, killing the fish and the spawn. I worked in vain to stop the emptying of sawdust into the streams, for I could get no co-operation from the Fish Commission of California. My letters to the Commissioners were not even answered. But since the present Board has been in I have received the heartiest co-operation.

By the joint action of the two States all the saw-mill men on the Truckee River except the powerful Truckee Mill and Lumber Company, which has one large mill and a small shingle-mill, have been compelled to stop emptying sawdust into the river. As a result the stream is completely free from sawdust and the spawn find a resting-place. The fish are again increasing rapidly in numbers. Fishing has improved wonderfully in the last two years, and the Truckee is itself again. There is now a suitable fish-ladder in every dam on the river in both California and Nevada.

The imported fish that are put in are doing well, especially the *Salmo fontinalis*, or the regular eastern brook-trout of New Hampshire. I am putting from 100,000 to 150,000 fish a year into the Truckee River alone. Rainbow trout and "land-locked" salmon are the principal varieties I have put in.

The annual report of the Fishery Board for Scotland for the year 1891, contains several matters of interest to Canadians. In this connection, the following extracts are given:—

An account of Contemporary Scientific Fishery work and fisheries in this and other countries. By Dr. T. Wemyss Fulton, F. R. S. E., Secretary for Scientific Investigations.

In the following pages I have brought together and summarized the information available as to the present condition of the sea-fisheries in the more important countries which possess sea-fisheries and fishery departments, and the various means being employed for their conservation and improvement. This has been possible only by the generous co-operation of those engaged in the fishery work in this country and abroad.

The chief points brought out in this comparative study of contemporary fisheries are:—

1. A general complaint of the depopulation of territorial and inshore waters from over-fishing. This complaint is made in all the states whose territories border the North Sea, namely, Norway, Denmark, Germany, Holland, Belgium, France and England as well as in Scotland. Similar complaints are made on the Mediterranean coast of France, in Spain, Italy and in America and elsewhere.

The measures proposed or adopted to meet this diminution are (1) the total or partial prohibition of certain modes of fishing deemed injurious; (2) the enforcement of close times; (3) prohibition of the capture, landing or sale of immature fish; (4) protection of spawning grounds; (5) the destruction of the enemies of the food fishes, as seals, porpoises, &c., in certain continental fisheries; (6) the establishment of hatcheries on the coast for sea-fish and edible shell-fish.

Examples of these may be found below. Regulations regarding immature fish exist in Denmark, France, and Italy; similar regulations are proposed in Belgium and Holland. Sea-fish hatcheries exist in the United States, Newfoundland, Canada, Norway and Scotland, and it is proposed to establish them in Belgium and France. In Newfoundland last season 551,469,000 young lobsters and 39,650,000 young cod were hatched and planted on the fishing grounds; this season 207,000,000 young cod were hatched in Norway and planted in the inshore waters.

2. The extension and organization of scientific investigations in connection with fisheries. During last year vessels have been engaged in making explorations of the fishing grounds of various countries. The expeditions on similar work off the west coast of Ireland have been completed, and the Belgian authorities propose to equip their fishing cruiser in order to undertake work like that done by the "Garland." A number of marine laboratories have been established. There is one in Italy, one in Austro-Hungary, eleven or twelve in France, one in Holland, one in Denmark, and several in the United States. The German Government have erected one at Heligoland in connection with their North Sea fisheries, which has been placed under the direction of Dr. Heincke, so well known in connection with his researches on the herring, with Dr. Ehrenbaum as assistant.

One cannot but be impressed by the energetic efforts being made by the various governments to organize, conserve and promote their sea fisheries in every way possible, and to acquire and diffuse information from other countries likely to prove beneficial. In many countries, periodic official reports are obtained from abroad, and many missions of inquiry are made, especially perhaps to this country.

CANADA.

As might be expected from the vast area of the Dominion and the extent of its fisheries, many matters are described in the report which can merely be touched on here. The fisheries for whitefish in the great Lake Winnipeg, complicated by circumstances connected with the Indians who fish in it, are found to be decreasing and certain measures are recommended by Mr. Wilmot for their conservation. Regarding the herring industry, much is hoped for from the Report of the Special Commission who investigated the cure and packing in this country and Holland, and which has been circulated very widely. Opinions, especially regarding inspection, classification, and branding, were obtained from various Boards of Trade, Chambers of Commerce, &c., and were nearly all in favour of compulsory inspection of cure and quality, selection of herrings into grades, branding, &c. The principles of an Inspection Act are suggested as follows:—1. That inspection of all herrings packed or imported shall be compulsory; (2) that at least three grades of fish should be established; (3) that a prescribed size and quality for the different packages be adopted, and that each package shall contain the required weight of fish irrespective of salt or brine; (4) that all herring below grade No. 3 should be branded 'culls,' also that the inspectors should be appointed by the Federal Government, and fees paid by the packer or importer. It may be said that if the history of the great herring fisheries in Europe teaches anything, it is the paramount importance of the proper selection, curing and packing of the pickled herring.

Numerous recommendations have been made for the improvement of the lobster fishery—a fishery difficult to supervise from its remote and scattered operations. The following proposals have been made: (1) A general close time from 15th July to 1st January, both for fishing and canning; (2) special additional close times for canning or curing on the Atlantic and Gulf coasts, divided into three regions for the purpose, the open time being in each case a little more than one month; (3)

during the open season no restriction to be made as to the size of lobsters canned or preserved; (4) possession, sale, or use of 'berried' females to be prohibited; (5) no lobster to be caught under 9 inches (with the exception stated above); (6) the artificial propagation of lobsters.

Attention is also directed to the unsatisfactory condition of the oyster beds, and measures suggested for their improvement; and there are sections dealing with the Fisheries Protection Service, the Fishery Intelligence Bureau (for the collection and prompt dissemination of intelligence immediately useful to fishermen), on pound-nets, purse-seines, &c. The report by Lieutenant A. R. Gordon on the Fisheries Protection Service contains much interesting information and valuable recommedations, especially in the mackerel fishery, the lobster fishery, the bait question and fishery statistics, and a number of charts accompany the report. There is also a special report by Mr. S. Wilmot, relative to the preservation of the whitefish fisheries of Lake Winnipeg.

In the report by Mr. S. Wilmot, the Superintendent of Fish Culture on the operations in fish-breeding, it is stated that 90,213,000 fish-fry, bred at the various hatcheries, were distributed in Canadian waters in the course of the year, making a grand total since the beginning of these operations, in 1868, of 799,757,900 young fish. Of the output last year, 42,525,000 were whitefish, 22,000,000 pickerel, and 9,861,000 Atlantic salmon (*Salmo salar*). Reports are given detailing the operations at each of the thirteen hatcheries. Mr. Wilmot gives a very interesting report in the measures being taken in Canada in connection with the artificial propagation of the lobster. After visiting the hatchery in Newfoundland, he selected a site at Bay View, Pictou County, Northumberland Strait, Nova Scotia. The ground was purchased, and the erection of the hatchery begun, and the whole establishment was to be in readiness for work in May of the present year. The cost of the hatchery and appurtenances is estimated at $5,000, and the annual cost of upkeep at $1,500. The hatchery is in proximity to lobster canning factories, and thus an abundance of lobster ova may be obtained. Mr. Wilmot calculates that at eight factories in the neighbourhood 35,157 berried females are captured daily, carrying about 703,140.000 eggs. The number of ova consigned to the boiling vats of the canneries, in violation of the law, is said to be about 17,578,500,000 during the short season of two months at these eight factories alone. And since there are some 500 canning factories on the shores of the Maritime Provinces, at which the same method seems to be practised, it is clear the destruction of lobster ova is enormous. Mr. Wilmot gives the results of an examination of a number of lobsters, with tables, with the view of determining the limit of size between mature and immature females, and recommends (1) the enforcement of close time; (2) the prohibition of killing undersized lobsters; (3) the licensing of all lobster trappers and packers under certain conditions. Complaint is made of an invasion of packers from the United States, who can lobsters on the Canadian coasts, and put them on the markets under trade marks which represent them to be of United States origin. The report also contains a paper on the salmon fisheries of Bay des Chaleurs, with plans of nets, fish-ladders, &c.

(*Extract from the Nautical Magazine, October*, 1892, *on British Sea Fisheries.*)

From all parts of the English and Scotch coasts come complaints that fish, except perhaps herrings and cod, are scarcer than they used to be, and fishermen north of the Tweed grieve over the influx of English boats into Scotch waters. Prophesying speedy depletion if the over-fishing which has been indulged in since the advent of the steam trawler continues. * * * * *
Seine-nets were almost totally unproductive, and the drift-nets were little better. Rough weather drove the pilchards or their food into deep water, where they were inaccessible. The failure of the seine fishing is attributed to the multiplication of the drift-nets, which break up the schools of fish and prevent them coming in shore. The over-fishing of crabs is held to be another cause which has led this fish to abandon the Cornish coasts, infantile crabs forming a favourite food of the pilchard. This

over-fishing and the wanton destruction of immature fish will come under the jurisdiction of the various Fishery Boards, and they can be relied upon to prevent so reckless a reduction of our fish supplies.

In the Bristol Channel the Cardiff fishermen allege that certain parts of it are entirely fished out. Thus the Cardiff trawlers, which sprang into existence a few years ago, have abandoned fishing and returned to towing again. Milford, however, flourishes, and no less than 36 steam and 100 sailing trawlers hail from there.

With regard to the slaughter of immature fish, no less than 70 tons were seized and condemned by the officers of the Fishmongers' Company, London, during the months of June. Such fatal recklessness as this would soon depopulate the most teeming fishing areas. The total amount of fish condemned as unfit for food in the London markets during 1891 was 1,014½ tons.

APPENDICES.

APPENDIX No. 1.

SCHEDULE of Fishery Officers in the Dominion of Canada for the Year, as revised to September, 1892.

PROVINCE OF ONTARIO.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Chas. Wilmot.	Inspector of Fisheries.	Newcastle.....	The Province of Ontario.
Capt. E. Dunn..... ..	Fishery Officer . ..	Owen Sonnd	Having jurisdiction over Georgian Bay and the Great Lakes.
Capt. A. M. McGregor..	do	Owen Sound	Sailing Master of the SS. "Bayfield," having jurisdiction over the whole Province of Ontario.
Donald F. Macdonell....	Overseer. ...	Port Arthur	The waters of Lake Superior and its tributaries from Pigeon River to Cape Gargantua.
Thos. H. Elliott.....	do	Sault Ste. Marie ..	From the head of Lake Superior to the easternmost mouth of French River, Algoma.
J. K. McDonald	do ...	Toronto	Lake Kagewong, Manitoulin Island.
W. J. Skynner.....	do	Sudbury	Ramsey Lake and other waters in the vicinity of Sudbury in Algoma District.
John Jackson.....	do	Midland	That portion of the waters of Georgian Bay, extending from Point Marks to opposite French River with counties opposite, including the mouths of Severn and Muskoka Rivers.
John Donaldson.....	do ...	Collingwood..	That portion of the waters of Georgian Bay, extending from Point Boucher to Point Marks, including Christian, Beckwith and other Islands and the surrounding waters ; also Nottawasaga River.
G. S. Miller..... ...	do	Owen Sound..	That portion of the waters of the Georgian Bay, extending from Colpoy's Bay to Allenwood.
John Hoar	do	Lafontaine.	About 18 miles of the waters of Georgian Bay, around Christian Island.
.. ..	do	Allenford	About 70 miles of the waters of Lake Huron, from Cape Hurd to Southampton, beside the inland waters of the county of Bruce, south of division line between Amable and Albermarle, comprised within an area of about 800 square miles.
H. W. Ball	do	Goderich.....	About 60 miles of the waters of Lake Huron from Southampton to Goderich.
H. B. Quarry.....	do	Parkhill	About 65 miles of the waters of Lake Huron, extending from Goderich to Blue Point.
J. C. Pollock.	Overseer...	Forest.....	About 45 miles of the waters of Lake Huron and St. Clair River, extending from Blue Point, on Lake Huron, to Baby's Point in River St. Clair.
C. W. Raymond	do	Mitchell's Bay....	About 30 miles of the waters of Lake St. Clair, from Little Lake to its head.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Joseph Boismier	Overseer	Sandwich	The waters of Lake St. Clair, from the division line between the townships of Dover West and Dover East to the mouth of Detroit River, and from thence to its outlet.
Hy. Linley	do	Cedar Springs	About 50 miles of the waters of Lake Erie, fronting on the county of Kent.
David Girardin	do	Point Pelee	About 50 miles of the waters of Lake Erie, around Point Pelee Island and adjacent islands.
Horace Bartlett	Warden	North Harbour Island.	About 20 miles of the waters of Lake Erie, around North Harbour and Middle Sister Islands.
Wm. Freeland	Overseer	St. Thomas	About 110 miles of the waters of Lake Erie, fronting on the county of Elgin.
David Sharp	do	Port Ryerse	About 70 miles of the waters of Lake Erie, fronting on the counties of Norfolk and part of Haldimand as far as South Cayuga.
W. A. McCrae	do	Dunnville	About 10 miles of the waters of Lake Erie, from Cayuga to Moulton Bay and Grand River (30 miles), from mouth to Caledonia.
Charles W. Evans	do	Cayuga	The waters of Grand River, from the Division Line between North Cayuga and Canborough, on the east, to Caledonia, on the west.
Geo. Price	do	St. Williams	About 30 miles of the waters of Lake Erie, around Long Point Island.
Fred Kerr	do	Hamilton	Having jurisdiction over all Ontario, but district proper comprises about 50 miles of the waters of Lake Ontario, from Brant House, Burlington Beach, to Niagara, including Niagara River.
Wm. Sargent	do	Bronte	About 20 miles of the waters of Lake Ontario, extending from Port Credit to Burlington Beach, at Brant House.
Wm. Helliwell	do	Highland Creek	About 26 miles of the waters of Lake Ontario, fronting on the county of York.
Chas. Gilchrist	do	Port Hope	About 40 miles of the waters of Lake Ontario, fronting on the county of Northumberland. Together with Rice Lake and tributaries, about 60 square miles of water.
Chas. Perry	do	Whitby	That portion of Lake Ontario, fronting on the county of Ontario South.
W. P. Clarke	do	Belleville	Bay of Quinté, comprising about 80 miles of coast line of counties of Prince Edward and Hastings, from Carrying Place to opposite Mill Point.
Joseph Redmond	do	Picton	About 90 miles of the waters of Lake Ontario, fronting on the county of Prince Edward.
A. D. Sills	do	Napanee	About 35 miles of the waters of Lake Ontario, fronting on the counties of Lennox and Addington, and upper part of Amherst Island; also the inland waters of the counties of Lennox and Addington, comprised within an area of about 1,600 square miles.
R. R. Finkle	do	Bath	About 25 miles of the waters of Lake Ontario, fronting on the Township of Earnestown in the counties of Lennox and Addington, and the lower part of Amherst Island.
A. H. Crosby	do	Belleville	That portion of the waters of the Bay of Quinté from Three Brothers' Island, near Kingston, to Trenton, at the head of the Bay.
Peter Kiel	do	Wolfe Island	About 60 miles of the waters of Lake Ontario, around Wolfe, Simcoe, Horseshoe and Pigeon Islands.
Wm. Ward	do	Toronto	The waters around Toronto Island including Toronto and Ashbridge Bays and River Don.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Thomas Merritt	Overseer	Kingston	About 20 miles of the waters of Lake Ontario fronting on the township of Storrington, Pittsburgh and Kingston, county Frontenac, including part of Bay of Quinté and River St. Lawrence.
John Cox	do	Howe Island	About 16 miles of the waters of Lake Ontario and River St. Lawrence, around Howe Island.
Nassau Acton	do	Gananoque	About 6 miles of the waters of the River St. Lawrence, from Wolfe Island to Jack Straw Lighthouse, together with the waters around Admiralty group of Islands; also Gananoque River, comprising 10 miles inland waters.
J. G. Wallace	Warden	Ivy Lea	About 10 miles of the waters of the River St. Lawrence, extending from Jack Straw Light-House, to Rockport, including the islands therein.
Henry Hunt	do	Rockport	The waters of River St. Lawrence around the LaRue's Island.
John H. Davis	do	Gananoque	The waters of the River St. Lawrence, extending from Sheriff's Point to Head of Grenadier Island.
Wm. Poole	Overseer	Poole's Resort	About 32 miles of the waters of the River St. Lawrence, extending from Rockport to Prescott.
Sydney Pattison	Warden	Rockport	About 32 miles of the waters of the River St. Lawrence from Gananoque to Brockville.
John Mooney	Overseer	Maitland	About 60 miles of the waters of the River St. Lawrence from Brockville to Cornwall.
Robt. P. Boyd	do	Lyn	About 6 miles of the waters of the River St. Lawrence, extending 3 miles above and 3 miles below Cole's Shoal Lighthouse.
Donald J. McDonald	do	Alexandria	That part of St. Lawrence River fronting on the counties of Stormont and Glengarry, including the inland waters of said counties.
Olivier Miron	do	Alfred	The waters of the South Nation River, county of Prescott, comprising about 50 miles of inland waters.
Jas. O. Hyndman	do	South Mountain	For that portion of the South Nation River, flowing through the counties of Dundas and Glengarry, including the inland waters of said counties.
W. W. Boucher	do	South March	The waters of the Ottawa River and its tributaries, extending from Ottawa to the town line boundary of Fitzroy Township, in the county of Carleton.
John Grant	do	Forester's Falls	The Ottawa River, extending from the head of Allumette Rapids to Mattawa.
Archibald Acheson	do	Westmeath	About 25 miles of the Ottawa River, comprising Lower Allumette and Coulonge Lakes.
J. S. Richardson	do	Sturgeon Falls	The waters of Lake Nipissing, Mattawa River and French River and tributaries.
David E. Bastedo	do	Bracebridge	The inland waters of the townships of Macauley, McLean, Ridout in N. R. Ontario Co., and Franklin, Brunel and Stephenson in Muskoka.
Geo. R. Steele	do	Lorimer Lake	The inland waters of the townships of Cowper, Foley, Christie, McDougall, McKellar, Ferguson, Carling, Shawanaga, Burpee, Hagerman, Harrison, Burton, McKenzie and Ferrie, in the districts of Muskoka and Parry-Sound, comprised within an area of about 1,000 square miles.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Edmund Forsyth	Overseer	Loring	The inland waters of Parry Sound, in the townships of Walbridge, Brown, Wilson Mills, Mowat, Blair, McKonkey and Hardy.
J. G. Rumsey	do	Huntsville	The inland waters of the townships of Chaffey, Cardwell, Stisted, Sinclair, Bethune, Monteith, McMurrich, Perry, Spence, Ryerson, Armour and Proudfoot, in the districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles.
Wm. Lockhart	do	Denville	The inland waters of the townships of Croft, Chapman, Strong, Jolly, Ferries, Lount, Machar, Laurier, Mills, Pringle, Gurd and Himsworth, in the districts of Muskoka and Parry Sound, comprised within an area of about 1,000 square miles.
Henry W. Gill	do	Ufford	Lakes Rosseau and Skelton, in the county of Simcoe and districts of Muskoka and Parry Sound.
Henry Castle	do	Gravenhurst	Lakes Muskoka and Joseph, in the county of Simcoe.
L. S. Sanders	do	Barrie	About 110 miles of the waters of the north shore of Lake Simcoe and its tributaries, Couchiching and Holland Rivers.
E. H. Cameron	do	Beaverton	Lake Simcoe from Cook's Bay to Beaverton.
Geo. Clarke	do	Orillia	The waters of Lake Couchiching and Severn River, in the counties of Simcoe, Muskoka and Ontario.
Wm. McDermot	do	Beeton	The inland waters of the South Riding of the county of Simcoe, comprised within an area of about 900 square miles.
H. McFayden	do	Durham	The head waters of Saugeen River and tributaries, comprising an area of about 1,000 square miles.
Patrick McCarron	do	Wallaceburg	The waters of Sydenham River and tributaries, comprising about 65 miles.
Orra Bishop	do	Wilkesport	The north branch of Sydenham River, from junction with main river to its sources, comprising about 20 miles.
Peter McCann	do	London	About 65 miles of the River Thames, from Wardsville to London.
Timothy McQueen	do	Chatham	About 25 miles of the River Thames, from Lewisville to its mouth.
W. P. Croome	do	Brantford	About 150 miles of the waters of the Grand River and its tributaries, from Brantford upwards.
Geo. Henwood	do	do	The inland waters of the counties of Brant, Waterloo, Oxford, Norfolk and Haldimand.
W. B. Jelly	do	Bowling Green	Th inland waters of the North Riding of the county of Wellington, comprised within an area of about 600 square miles.
Andrew Hughson	do	Orangeville	About 25 miles of the waters of River Credit, extending from Orangeville to Norval; together with the inland waters of the townships of Mono, East Garafraxa, Amaranth, Albion, Luther, Melancthon, Erin, Caledon, Eramosa and Esquesing, comprised within an area of about 500 square miles.
David Coleman	do	Alton	The inland waters of the county of Cardwell, comprised within an area of about 400 square miles.
Alex. Blakely	do	Port Credit	About 1½ miles of the waters of the River Credit, from Norval to its mouth, in the county of Peel.
Nelson Simmons	do	Meyersburg	The waters of Trent River, in the counties of Northumberland and Hastings, comprising about 80 miles.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
John Martin	Overseer	Raglan	Lake Scugog, including Lindsay and Scugog Rivers, in the counties of Durham, Victoria and Ontario, about 50 miles.
J. C. Bowen	do	Marmora	Crow Lake, Belmont Lake and Crow River, in the counties of Hastings and Peterboro'.
Geo. W. Fitzgerald	do	Lakefield	The inland waters of the county of Peterboro', within the townships of Harvey, Burleigh, Dummer, Douro, Smith and Ennismore.
David Breeze	do	Peterboro'	Otonabee River, extending from Peterboro' to Rice Lake, in the county of Peterboro'
Wm. Gainforth	do	Haliburton	The waters of Gull and Burnt Rivers and tributaries, together with Drag, Eagle, Moose, Redstone, Crooked and other lakes, lying within the East Riding of the county of Peterboro', and comprised within an area of about 400 square miles.
B. H. Sweet	do	Bancroft	The inland waters of the townships of Wollaston, Limerick, Cashel, Farraday, Dungannon, Mayo, Herschel, Monteagle, Carlow, McClure, Wicklow, Bangor, in the county of Hastings, and comprised within an area of about 1,000 square miles.
H. R. Purcell	do	Colebrook	The inland waters of the townships of Camden, Portland, Loughboro', Sheffield and Kennebec, in the counties of Addington and Frontenac, comprised within an area of about 500 square miles.
Robt. A. Gilbert	do	McLaren Depot	The inland waters of the townships of Palmerston, Clarendon, North Canonto, South Canonto and Miller, in the county of Addington, and comprised within an area of about 500 square miles.
George Lake	do	Tichbourne	The inland waters of the townships of Bedford, Hinchinbrooke, Olden and Oso, in the county of Frontenac, and comprised within an area of about 400 square miles.
Samuel Boddy	do	Athens	Upper Beverley Lake, Bass Lake, Little Lake, Wiltse Lake and Mud Lake, in the county of Leeds.
David W. Edgar	do	Morton	Upper Beverley Lake and tributaries to Morton and Lyndhurst and Griffin Lake, in the county of Leeds.
John Moorhead	do	Long Point	From Lyndhurst to the division line, between Leeds and Lansdowne, in the county of Leeds.
James Greer	do	Warburton	Gananoque River from Marble Rock to division line, between the township of Leeds and Lansdowne, including South Gananoque and Round Lake and Cherry Pound, in the county of Leeds.
Wm. Hicks	do	Athens	The waters of Charleston Lake, in the county of Leeds.
George Jeacle	do	Westport	The waters of Rideau, Upper Rideau, Openicon, Otty, and neighbouring lakes, in the county of Leeds, comprised within an area of about 200 square miles.
...	do	Perth	The inland waters of the South Riding of the county of Lanark, from the narrows between Upper and Lower Rideau Lakes to Smith's Falls, comprising about 25 miles.
Eph. Deacon	do	Bolingbroke	The waters of River Tay and tributaries and Fall Bay River, in the county of Lanark, comprising about 35 miles.
Alexander Wilson	do	Carleton Place	About 60 miles of the waters of Mississippi River and Lake, in the county of Lanark.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF ONTARIO—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
R. O. Campbell	Overseer	Kemptville	Rideau River and tributaries, from Ottawa to Burritt's Rapids, including Jock River, in the county of Carleton, comprising 55 miles.
Matthew Riddell	do	Mohr's Corners	Ottawa River, from the eastern town line boundary of Fitzroy to eastern town line of McNab, including Lake des Chats.
George Russell	do	Arnprior	Ottawa River, extending from the eastern town line boundary of McNab to the western boundary of Horton, having joint jurisdiction over Lake des Chats.
M. L. Russell	do	Renfrew	The waters of Bonnechère River and tributaries, in the county of Renfrew, comprising about 50 miles.
Hugh Gallagher	do	Sebastopol	The inland waters of townships Sebastopol, Redcliffe, Lyndoch and Gratton, in the county of Renfrew, comprised within an area of about 400 square miles.
Geo. Douglas	do	Snake River	The waters of Muskrat Lake and Snake River, in the county of Renfrew, comprised about 25 miles.
Joseph Bélanger	do	High Falls	The waters of Calabogie Lake and the island waters, of the township of Bagot, county of Renfrew, comprised within an area of about 100 square miles.
R. J. N. Pither	do	Rat Portage	Lake of the Woods. (Indian Agent.)
James McCracken	do	Coutchiching	Rainy Lake and Lake Seul. do
J. McIntyre	do	Fort William	Eagle Lake. do
J. P. Donelly	do	Port Arthur	Nepigon River. do

PROVINCE OF QUEBEC—TIDAL DIVISION—SOUTH SHORE.

Wm. Wakeham	Officer in charge of the Fishery Protection Str. "La Canadienne."	Gaspé Basin	Lower St. Lawrence River and Gulf.
J. U. Gregory	Agent of M. and F., and Fishery officer.	Quebec	Having jurisdiction in the whole Province of Quebec.
J. A. Verge	Overseer	Cross Point	The estuary division of the River Restigouche, extending from Point Maguasha to Head of Tide, on the Quebec side, and from Dalhousie to Head of Tide on the New Brunswick side, comprising about 60 miles.
Pierre Cyr	do	Nouvelle	About 35 miles of the waters of Bay des Chaleurs, extending along the coast from Maguasha to Grand Cascapedia River, including the estuary thereof.
John Smith	do	New Carlisle	About 40 miles of the waters of Bay des Chaleurs, extending along the coast from the mouth of Grand Cascapedia River to Paspebiac.
John Phelan	do	Port Daniel	About 30 miles of the waters of Bay des Chaleurs, extending along the coast from Paspebiac to Point Macquereau.
Henry Jones	do	Little River West, Gaspé.	That portion of the waters of the county of Gaspé from corner of the Beach to Point Macquereau, including Bonaventure Island, Little Pabos, Grand Pabos and Grand Rivers.
Geo. T. Annett	do	Peninsula, Gaspé.	That portion of the waters of the county of Gaspé from Cape Rosier to corner of the Beach, including Dartmouth, York, St. John and Malbaie Rivers.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—TIDAL DIVISIONS—SOUTH SHORE.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Pierre Thériault	Overseer	Griffin Cove, Gaspé	That portion of the waters of the county of Gaspé, from Faure Point to Cape Rosier.
J. A. Chevrier	do	Amherst	About 100 miles of the waters of the Gulf of St. Lawrence around the Magdalen Islands.
P. L. Joncas	Officer and Collector of Customs.	House Harbour, Magdalen Islands	All the Magdalen Islands except Amherst and Entry Islands. Specially connected with the Fishing Bounty.
Joseph Lemieux	Overseer	Montlouis	About 80 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Gaspé, and extending from Cape Rosier to Montlouis.
Jos. I. Létourneau	do	Ste. Anne des Monts.	About 80 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Gaspé, and extending from River Ste. Anne des Monts to Cap Chatte.
Johnny Joncas	do	Matane	About 54 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Rimouski, and extending from Cap Chatte to River Blanche; together with the River Matane, comprising about 12 miles of inland waters.
L. E. Grondin	do	Rimouski	About 45 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Rimouski, and extending from River Blanche to Rimouski.
H. Martin	do	do	About 35 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Rimouski, and extending from Rimouski, to the division line between the counties of Rimouski and Temiscouata.
Nap. Levesque	do	Isle Verte	About 30 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Temiscouata.
Xavier Pelletier	do	Ste. Anne de la Pocatière.	About 45 miles of the waters of the south shore of the River St. Lawrence, fronting on the county of Kamouraska.
Eug. Pelletier	do	St. Roch des Aulnais.	About 70 miles of the waters of the south shore of the River St. Lawrence, fronting on the counties of L'Islet, Montmagny, Bellechasse and Lévis, extending from Ste. Anne de la Pocatière to Point Lévis.
L. P. Huot	do	St. Roch de Québec	About 50 miles of the waters of the north and south shores of the River St. Lawrence, around the Island of Orleans.
U. Bhéreur	do	Malbaie	About 60 miles of the waters of the north shore of the River St. Lawrence, fronting on the county of Charlevoix, and extending from River du Gouffre to the division line between the counties of Charlevoix and Saguenay.
L. N. Catellier	do	Tadoussac	About 80 miles of the waters of the north shore of the River St. Lawrence, fronting on the county of Saguenay and extending from the division line between the counties of Charlevoix and Saguenay to Bersimis; and the tidal waters of the River Saguenay from its mouth to Chicoutimi, comprising 70 miles; in all, 150 miles.
N. A. Comeau	do	Godbout	About 115 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from Manicouagan to Baie des Rochers, including the estuaries of Godbout, Trinity and Pentecost Rivers.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—TIDAL DIVISIONS—NORTH SHORE.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
T. Mignault	Overseer	Montmagny	About 75 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from Baie des Rochers to Point St. Charles, including the estuaries of Marguerite and Moisie Rivers.
Geo. Duberger	do	Pointe-à-Pic, Co. Charlevoix	About 105 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from Point St. Charles to Esquimaux Point, including the estuaries of the St. John and Mingan Rivers.
Geo. Gaudin	do	Cape Cove, Gaspé	About 100 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from Esquimaux Point to Natashquan River, including the estuaries of the Rivers Agwanus, Nabissippi and Natashquan.
G. Mathurin	do	Montmagny	About 100 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from River Natashquan to Cape Whittle, including the estuaries of Washecoutai, Kegashca, Musquarro and Olomonosheeboo Rivers.
Jean Legouvé	Warden	Pacachoo	About 140 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from Cape Whittle to Checatica.
W. H. Whitely	do	Bonne Espérance	About 65 miles of the waters of the north shore of the Gulf of St. Lawrence, fronting on the county of Saguenay and extending from Checatica to Blancs Sablons, the boundary line between Quebec and Newfoundland, on the coast of Labrador, including the estuary of the Esquimaux River.

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS.

Alf. Blais	Overseer	Causapscal	About 30 miles of the waters of Lake and River Metapedia, in the county of Bonaventure, from head of Lake to Causapscal.
Henri Côté	do	Baie St. Paul	Lakes in rear of Murray Bay and Bay St. Paul.
Jos. Simard	do	Ste-Agnès	do do
J. F. Picotin	do	Drummondville	About 60 miles of the River St. Francis, in the counties of Yamaska and Drummond, extending from its mouth to Richmond.
N. A. Beach	do	Georgeville	The eastern shore of Lake Memphremagog, in the county of Stanstead, and waters extending to the middle of the Lake.
Horace Green	do	East Bolton	The western shore of Lake Memphremagog, in the county of Brome, and waters extending into the Lake.
Sylvester E. Pheps	do	Bolton Centre	Inland waters, township of Bolton, East and West in the county of Brome.
P. C. Bourke	do	Somerset	The inland waters of the county of Megantic, comprised within an area of 850 square miles.
J. Laberge	do	Chateauguay	About 40 miles of the waters of the River St. Lawrence, fronting on the county of Chateauguay, including Chateauguay River.
John Kelly	do	Beauharnois	About 50 miles of the waters of River St. Lawrence, fronting on the counties of Beauharnois and Huntingdon ; together with about 35 miles of the waters of Chateauguay and Trout Rivers.

SCHEDULE Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
J. O. Dion	Overseer	Chambly Canton	About 43 miles of the Richelieu River, extending from Sorel to Richelieu Village.
J. B. Chevalier	do	Iberville	About 30 miles of the waters of Richelieu River, extending from St. John's to Lake Champlain.
P. E. Luke	do	Philipsburg	About 15 miles of the waters of Missisquoi Bay and Pike River, in the county of Missisquoi.
P. W. Nagle	do	Sherbrooke	The inland waters of the county of Stanstead, comprised within an area of about 540 square miles.
Joel Shurtleff	do	Compton	The inland waters of the county of Compton, comprised within an area of about 1,600 square miles.
A. L. Darche	do	Sherbrooke	The waters of the counties Richmond and Wolfe.
J. B. McDonald	do	Echo Vale	About 10 miles of the waters of Lake Megantic and Spider in the county of Compton.
W. G. Greene	do	Brome Lake	Brome Lake.
John McCaw	do	Sherbrooke	Lakes in counties of Megantic and Wolfe.
V. Veilleux	Warden	St. Ephrem de Tring	The inland waters of the county of Beauce, comprised within an area of about 1,600 square miles.
Chas. Vadeboncœur	Overseer	Three Rivers	About 25 miles of the River St. Lawrence and Lake St. Peter, fronting on the county of St. Maurice, including the inland waters of said county, and the city of Three Rivers.
Denis Shooner	do	Pierreville	That portion of Lake St. Peter fronting on the county of Yamaska and the River St. Francis within the limits of the said county.
Geo. Boisvert	do	Bécancour	About 36 miles of the waters of the River St. Lawrence and Lake St. Peter, fronting on the county of Nicolet.
Joseph Charbonneau	do	St. Césaire	Yamaska River and its tributaries from West Farnham to St. Hugues, including Black River.
S. A. Grant	do	Louiseville	About 35 miles of the waters of the River St. Lawrence and Lake St. Peter, fronting on the counties of Maskinongé and Berthier, including the islands in front.
Jos. Boivin	do	River Beaudet	About 20 miles of the waters of the River St. Lawrence, fronting on the county of Soulanges, and extending from Point Beaudet to Coteau Landing.
Narcisse Lavallée	Warden	Sorel	That portion of the waters of the River St. Lawrence fronting on the county of Richelieu, including the islands therein.
John Morris	Overseer	St. Lambert	About 50 miles of the waters of the River St. Lawrence, fronting on the counties of Laprairie, Chambly et Verchères.
Wm. Ritchie	do	Chilton	Inland waters of the county of Montcalm.
André Robert	do	Lachine Rapids	About 15 miles of the waters of the River St. Lawrence, fronting on the county of Jacques Cartier.
A. A. Wilson	do	Coteau du Lac	The waters of the districts of Montreal and Terrebonne.
Julien Montpetit	do	Isle Perrot	About 15 miles of the waters of the River St. Lawrence, surrounding Isle Perrot.
Jos. Lauzon	do	Terrebonne	The Rivers Jesus and Des Prairies, comprising about 50 miles.
Jos. Filiatrault	do	Ste. Adèle	The inland waters of the townships of Morin and Beresford, in Terrebonne and Wolfe Counties, and de Salaberry and Grandison, in Argenteuil County, comprised within an area of about 500 square miles.

SCHEDULE Fishery Officers, &c.—*Continued.*

PROVINCE OF QUEBEC—NON-TIDAL DIVISIONS—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Toussaint Cloutier	Overseer	Piedmont, Terrebonne Co.	The inland waters of the townships of Abercrombie, Wexford and Kilkenny, in Terrebonne and Montcalm Counties, comprised within an area of about 300 square miles.
Damien Filiatrault	do	Ste. Rose, Laval Co.	That portion of River Jesus from its mouth to division line between Ste. Rose and St. François de Sales in Laval and Terrebonne Counties.
R. W. Jones	do	St. Andrews	About 15 miles of the waters of the north side of the Ottawa River extending from Oka to Carillon.
Theo. Sabourin	do	Rigaud	About 30 miles of the waters of the south side of the Ottawa River, extending from Cascades to Point Fortune.
Jos. Marion	do	Hull	The waters of the Ottawa River, fronting on the county of Ottawa, comprising about 75 miles.
Erwin Mohr	do	South Onslow	The waters of the Ottawa River, fronting on the county of Pontiac, extending from the division line between the counties of Ottawa and Pontiac to Fort Coulonge, and comprising about 50 miles.
J. T. Coghlan	do	Chapeau	The waters of the Ottawa River, fronting on the county of Pontiac, extending from Fort Coulonge to Des Joachims, and comprising about 75 miles.
Robt. Joynt	Warden	Joynt	The inland waters of the township of Masham, in the county of Ottawa, including Bernard Lake, comprised within an area of about 90 square miles.
Emiel Weisener	Overseer	Blanche	The waters of the townships of Mulgrave and Lathbury, Ottawa County.
R. C. W. McCuaig	do	Ottawa	The inland waters of the township of Wakefield, Ottawa County.

PROVINCE OF NOVA SCOTIA.

A. C. Bertram	Inspector of Fisheries.	North Sydney	District No. 1, comprising the Island of Cape Breton.
Robert Hockin	do	Pictou	District No. 2, comprising the counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants.
J. R. Kinney	do	Yarmouth	District No. 3, comprising the counties of Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King's.
H. W. Johnston	Agent M. & F. & Fishery Officer.	Halifax	Having jurisdiction over the whole of Nova Scotia.
		Annapolis County.	
Bailey, W. M.	Overseer	Round Hill	The county of Annapolis.
		Antigonish County.	
Aymer, J. R.	Warden	Pomquet Forks, Antigonish	From mouth of harbour to Forks; from thence on the Pomquet River to V. Chisholm's Mills, and from Forks, on the Black River, to Falls.
Cameron, Lochlin	do	Fraser's River, Antigonish	From McWilliam's Bridge to head of lake.
Chisholm, Hugh	do	Lower South River, Antigonish	From Antigonish Harbour to McWilliam's, or St. Andrew's Bridge.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Antigonish County—Concluded.	
Chisholm, Donald	Warden	Salt Springs, Antigonish	From Trotter's Mill Brook to W. Thompson's Dam.
Dexter, John	do	Antigonish	From Antigonish Harbour (foot of marsh) to Trotter's Mill Brook; thence up said brook to Trotter's Mill, including both branches of West River and Bailey's Brook.
Fraser, Duncan	do	St. Joseph	From Pinkeytown Bridge to Stewart's Mill.
Macadam, Alex	do	West River	From Thompson's Dam to Addington Forks Bridge.
McDonald, John	Overseer	Doctor's Brook	Antigonish County.
McDougall, Arch'd	Warden	NcNair's Cove, Cape George	From John McDonald (Bun's) Cove, north side of Cape George, to Crebbing Head, St. George's Bay.
Donald, McInnis	do	Addington Forks	Addington Forks.
Randall, Albert	do	Bayfield	From shore to lake.
		Cape Breton County	
Quinan, Francis	Overseer	Sydney	Division No. 1.—The sea coast and inland waters of the county of Cape Breton lying north of a line drawn from the south end of Forks Lake to False Bay, extending west as far as a line drawn from the same point on Forks Lake to the head of the North West Arm of Sydney Harbour; including the south side of North West Arm, South Arm, south side of Sydney Harbour to Low Point, and all the coast waters from Low Point to False Bay.
Hickey, Richard	do	North Sydney	Division No. 2.—The sea coast and inland waters of the county of Cape Breton lying north and west of a line drawn from the head of the North West Arm of Sydney Harbour to the south end of Forks Lake; thence to Grand Narrows Bridge.
Burke, Wm	do	Mira Ferry	Division No. 3.—The sea coast and inland waters of the county of Cape Breton lying south of a iine drawn from the south end of Forks Lake to False Bay, and bounded on the south by a line drawn from the same point on Forks Lake to Marion Bridge, on Mira River; thence to Eagle Head on Gabarous Bay, including that portion of Mira River, east of Marion Bridge; also the waters around Scattarie Island.
McDonald, Alexander	do	East Bay	Division No. 4.—The sea coast and inland waters of the county of Cape Breton, south of a line drawn from the south end of Forks Lake to the Grand Narrows Bridge, and bounded on the east by a line drawn from the south end of Forks Lake to Marion Bridge, thence to Eagle Head on Gabarous Bay, including all that portion of Mira River lying south west of Marion Bridge; also Gabarous and Fourchu Bays.
		Colchester County.	
Gass, H	do	Tatamagouche	Northern Division, county Colchester, comprising Tatamagouche Bay, French and Waugh's Rivers.
Pollock, R. J	do	Lower Stewiacke	Stewiacke River (lower portion).

SCHEDULE of the Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Bank.	P. O. Address.	Extent of Jurisdiction.
		Cumberland County.	
Fowler, Flijah	Overseer	Peterboro'	Cumberland County, Western Division, including all streams flowing into the Bay of Fundy
Gilroy, Geo. W	do	Oxford	Cumberland County, Eastern Division, embracing all streams emptying into the Straits of Northumberland.
Murphy, Wm	do	Wallace	Wallace River.
Wills, A. M	do	Pugwash	Smelt and oyster fisheries at Pugwash.
		Digby County.	
Collins, J. A	Overseer	Westport	Western Division of Digby County, comprising the waters of St. Mary's Bay. Long and Brier Islands.
Cosseboom, J. W	do	Rossway	Eastern Division of Digby County, comprising the waters of Digby County, except those of St. Mary's Bay, and around Long and Brier Islands.
Journey, Robt	Warden	Weymouth	Sissiboo River.
McKay, Lochlin	do	Barton	St. Mary's Bay.
Potter, Chas. T	do	Joggins River	Joggins River to Bear River.
		Guysborough Co.	
Cameron, Wm	Overseer	Guysborough	Having jurisdiction over the whole county of Gusborough.
McQuarrie, Allan	do	Sherbrooke	do do do
		Halifax County.	
Gaston, Robt	do	Pope's Harbour	Having jurisdiction over the whole county of Halifax.
Power, Jas. F	do	Upper Prospect	do do do
Rowlings, Geo	do	Musquodoboit Hr.	do do do
		Hants County.	
	Overseer		Hants County, Western Division, from western county line to Walton.
Colter, John	Warden	Milford	Shubenacadie River.
Horne, Arch	do	Enfield	South end of Shubenacadie and Nine Mile River.
Mosher, Jas	do	Brooklyn	Rivers Meander and Herbert, from mouth to source.
Mosher, Noah	do	Mosherville	Kennetcook River, from mouth to head of tide.
O'Brien, Jas	do	Maitland	Walton and Kennetcook Rivers.
Smith, W. B	Overseer	do	Shubenacadie River from Five Mile River to its mouth and the south side of Cobequid Bay to Noël.
Snide, John	do	Shubenacadie	Shubenacadie River from Shubenacadie to and including Five Mile River.
		Inverness County.	
McLean, D. F	do	Port Hood	Division No. 1.—The sea coast of the county of Inverness south of Mabou Harbour, including South-West Mabou and Little Mabou Rivers, Port Hood, Seaside, Judique, Little Judique, Long Point, Cregnish, Low Point, Port Hastings and Port Hawkesbury, and extending into the interior to the north-west arm of River Inhabitants; also all that portion of the inland waters of the county of Inverness, lying on

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Inverness County—Concluded.	
			the northern side of the county Victoria. line from James McKinnon's to Whycocomagh Bay, and from the western side of the road leading from Whycocomagh Bay through Glencoe and south-west ridge of Mabou to Mabou Bridge.
McEachern, Peter	Overseer	Glendale	Division No. 2.—That portion of the county of Inverness lying on the southern side of the county Victoria line, from the head of Whycocomagh Bay (Port Hawkesbury and Port Hastings excepted), including River Inhabitants and its branches, River Denis and its branches, Malagawatch and West Bay.
McKeen, Lewis	do	Mabou	Division No. 3.—That portion of the county of Inverness lying on the northerly side of Mabou Harbour, including the main river of the same name north of Whycocomagh and all streams flowing into the northern side of Whycocomagh Bay ; also the northern side of Mabou mouth, Coal Mines ; Mabou Light Point, Port Ban, Broad Cove shore to Broad Cove Chapel on the sea coast and the waters of Lake Ainslie in the interior.
Coady, James	do	S. W. Margaree	Division No. 4.—That portion of the sea coast of the county of Inverness extending from Broad Cove Chapel, including Broad Cove Marsh, Chimney Corner, Margaree Island and Doucette's Cove to Delaney's Cove ; also the waters of East Lake Ainslie, and the streams flowing into it, Loch Ban, S. W. Margaree River and its tributaries, and the main river of Margaree from the Forks to Margaree Harbour.
Ross, David	do	N. E. Margaree	Division No. 5.—That portion of the sea coast of the county of Inverness extending from Delaney's Cove northward, including Big Pond, Cheticamp Point, Eastern Harbour, Little River, Cape Rouge and Pleasant Bay to Meat Cove ; also that portion of the north-east Margaree River from Margaree Forks to the source of Big Intervale, and all other streams to the county Victoria line.
		King's County.	
Bishop, C. E	Warden	Horton	Gaspereaux River.
Brown, Philip	do	Blomidon	Blomidon.
Miller, Jas. S	Overseer	Canning	King's County.
Murphy, L. A	Warden	Gaspereaux	Gaspereaux River.
McIntyre, W	do	Aylesford	Annapolis River.
Reid, R. F	Overseer	Wolfville	King's County.
Thorpe, J. W	Warden	Hall's Harbour	Hill's Point to Cape Split.
		Lunenburg County.	
Boylan, Edward	Warden	New Ross	Upper Gold River.
Burns, Amon	do	Upper La Have	From Cooks to source of La Have River.
Cooney, Wilbur	do	Chester	East Branch, Middle River.

SCHEDULE of Fishery Overseers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Lunenburg County—Concluded.	
Croft, Wm	Warden	Chester Basin	East Gold River, from Bongard's Point to Gold River Branch, thence to Clarke's Clinton's and Henry's Lakes.
Demon, David	do	Lower Gold River.	Lower Gold River.
Evans, David	Overseer	Chester	Lunenburg County, East Division, Middle Gold, Martin's and Mushamush Rivers.
Godard, C. E	do	Bridgewater	La Have River.
Keating, Michael	Warden	East River	East River.
Keddy, J. H	do	New Ross	Larder's River.
Mossman, Josiah	do	Bridgewater	From Henry Kock's to Knock's.
Meisner, Jacob	do	Chester	East River.
Schmeisser, N	do	East LaHaveFerry	La Have River, from mouth to Wilkie's Cove.
Solomon, W. M.	Overseer	Lunenburg	Western Division, Lunenburg County.
		Pictou County.	
McPhie, Allan	do	Avondale	Eastern division, comprising the coast waters from Pictou Harbour to Antigonish County line, including French River, Barney's River, Bailey's Brook and streams tributary thereto.
McQueen, J. D	do	Little Harbour	Southern Division, comprising Sutherland's River, Moose River, Garden of Eden Lake, East River, St. Mary's and stream tributary thereto.
Pritchard, A. O	do	New Glasgow	Central Division, comprising Pictou Harbour, Pictou Island, East, West and Middle Rivers of Pictou.
Sutherland, Robert	do	River John	Western Division, comprising the coast waters from Colchester County line to Cole's Reef at Pictou Harbour, and all waters flowing into these waters, viz.: River John and tributaries Toney River, Big Cariboo and Little Cariboo Rivers.
		Queen's County.	
Freeman, J. W	do	Liverpool	Queen's County.
		Richmond County.	
Lenoir Alfred	do	Arichat	Division No. 1. The sea coast and island waters of Isle Madame, including the southerly half of the waters of Lennox Passage.
Cameron, Duncan	do	St. Peters	Division No. 2. That portion of the inland waters of the county Richmond lying west of St. Peter's Canal, including the northerly half of the waters of Lennox Passage.
Murchison, John	do	Grand River	Division No. 3 That portion of the sea coast, lakes and inland waters lying east of St. Peter's canals.
		Shelburne County.	
McGill, Wm. John	do	Shelburne	Shelburne County.
Goudey, E. S	do	Barrington	From and including Clyde River to Yarmouth county line.
		Victoria County.	
McDonald, Duncan	do	Aspy Bay	Division No. 1.—The sea coast and inland waters of the county of Victoria, lying north of a line drawn from Middle Head, which divides the north and south bays of Ingonish, to the county line of Inverness.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NOVA SCOTIA—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Victoria County—Concluded.	
Bingham, Wm.	Overseer	Englishtown	Division No. 2.—The sea coast and inland waters of the county of Victoria from Cape Breton County line, on Boularderie Island, to Lake O'Law Post Office, near Inverness County line, thence to the boundary of Division No. 1, at Middle Head, Ingonish, including the waters of Clyburn Brook.
McQuarrie, Donald	do	Middle River	Division No. 3.—That portion of the county including Bras d'Or Lake, with the inland waters and estuaries, from a line drawn from the angle in the county line of Cape Breton at Boularderie Island, to Lake O'Law Post Office.
		Yarmouth County.	
Hatfield, J. A	do	Tusket	Yarmouth County.

PROVINCE OF NEW BRUNSWICK.

Pratt, J. H.	Inspector of Fisheries and officer in comm'nd of Cruiser "Curlew."	St. Andrew's	District No. 1, comprising the county of Charlotte, including the Islands of Campobello and Grand Manan, and Passamaquoddy Bay.
Chapman, Robert A	Inspector of Fisheries.	Moncton	District No. 2, comprising the counties of Restigouche, Gloucester, Northumberland, Kent and Westmoreland.
Morrow, David	do	Oromocto	District No. 3, comprising the counties of Albert, St. John, King's, Queen's, Sunbury, York, Carleton and Victoria.
Harding, J. H	Agent of M. and F., and Fishery Officer.	St. John	Having jurisdiction over the whole of New Brunswick.
		Albert County.	
Stewart, Suthd	Overseer	Alma	County of Albert.
Taylor, Wallace	Warden	Coverdale	Petitcodiac River.
Wilbur, Kinnear T.	do	Midway, Harvey	Germantown Lake and Shepody River.
		Carleton County.	
Burt, George R.	Overseer	Upper Woodstock.	St. John River and tributaries, from Long's Creek to Tobique River.
Lindsay, G. Alex.	do	Highlands	Miramichi River (S.W.) from head waters to forks.
Scott, J. W.	Warden	Canterbury	St. John River, from Eel River to Woodstock.
		Charlotte County.	
Ash, William	Overseer	Beaver Harbour	East District of county of Charlotte.
Barry, Thomas	Warden	Lower Falls, Magaguadavic	Lower Falls, Magaguadavic River.
Brown, Barth.	Overseer	Campobello.	Campobello and West Isles, with coasts and streams in Charlotte County.
Campbell, D. F.	do	St. Andrew's	Inner Bay of Passamaquoddy.
Carroll, Edward	Warden	Grand Manan	Whitehead Island.
Dick, Samuel	do	La Tête	Inner Bay, Passamaquoddy.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Charlotte County—Concluded.	
Dixon, Robert	Warden	Lepreaux	Seeley's Gove to Lepreaux.
Holmes, Thomas	do	Deer Island	West Side, Deer Island.
Lord, J. M.	Overseer	do	Deer Island.
McLaughlin, W. B.	do	Grand Manan	Grand Manan Island and spawning grounds.
Todd, Frank	do	St. Stephen	St. Croix River and tributaries.
		Gloucester County.	
Aché, Adolphe	Warden	Shippegan	Shippegan.
Albert, Xavier D.	Overseer	Caraquet	Caraquet Herring Banks.
Brown, Gavin	Warden	Tête à Gauche River	From Brown's Mill down to mouth.
Calnan, John, jun.	do	Kinsale	That part of River Tête à Gauche, from Brown's Mills to source.
Dempsey, Miles	do	Salmon Beach	Salmon Beach, from Bass River to Grindstone Point.
Gibbs, Valentine	do	Pokemouche	Pokemouche.
Hache, J. L	Overseer	Caraquet	Caraquet and Shippegan oyster beds, with St. Cimon's Inlet and River.
Hickson, James	do	Bathurst	River Nepissiguit and tributaries, with sea coast and streams, from Belledune River to Grindstone Point.
Robichaud, Olivier	Warden	Ferguson's Point	Coast from Northumberland County line to Green Point, with Big and Little Tracadie Rivers.
Thériault, James D.	Overseer	Grande Anse	Bay Chaleurs, from Grande Anse to Point Mizzenette.
Walsh, William	do	Pokemouche	District of Pokemouche.
Whelton, Michael	Warden	do	Pokeshaw.
		Kent County.	
Boudreau, Ed.	do	Little Buctouche River.	Little Buctouche River.
Collet, S. L.	do	Buctouche	Buctouche Bay.
Cormier, Charles.	Overseer	Cocagne	Coast line and inland waters of the yarish of Dundas.
Girouard, M. A.	Overseer	Buctouche	Coast line and inland waters of the parishes of Wellington and St. Mary's.
Hannah, William F.	do	Richibucto.	The whole of the county of Kent.
Leblanc, A. T.	do	Legerville	Inland waters of the parishes of Harcourt and Huskisson.
Mauzerolles, James	Warden	Kouchibouquacis	Coast line of Kouchibougnac Bay extending from Kouchibouquacis River to Pt. Sapin.
Richard, Pierre L.	Overseer	St. Louis	Coast line and inland waters of the parishes of St. Louis, Carleton and Acadieville.
		King's County.	
Belyea, J. A.	Overseer	Westfield	St. John River and Belle Isle Bay and streams running thereinto.
Fenwick, Edwin	Warden	Studholm	Millstream.
Gray, Justus H.	Overseer	Springfield.	The waters in the parish of Springfield.
Heine, W. H	do	Norton Station	The Kennebecassis River from Apohaqui to Hampton.
Nowlan, Jas. D.	do	Smith's Creek	From mouth of Smith's Creek and the waters in the parishes of Havelock, Waterford, Sussex and Hammond.
Pearson, I. R.	Warden	English Settlement	Washademoak Lake and its tributaries in King's and Queen's Counties.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
		Northumberland County.	
Robichaud, Prudent	Overseer	Upper Neguac	District No. 1—The north coast of Northumberland County extending from Gloucester County line up the Miramichi Bay and River to Oak Point as far as midchannel, including all bays, gullies, islands, rivers and streams entering thereinto.
Williston, J. G	do	Bay du Vin	District No. 2—The south coast of Northumberland County, extending from Kent County line up the Miramichi Bay and River to Point aux Carr as far as midchannel, including all bays, gullies and islands and rivers and streams entering thereinto.
Abbott, Lemuel	do	Chatham	District No. 3—Both shores of the main Miramichi River extending from a line drawn from Point aux Carr on the south side to Oak Point on the north side, to its junction with the north-west and south-west Miramichi Rivers, together with all islands therein and all rivers and streams emptying thereinto.
Hogan, Patrick	do	Newcastle	District No. 4—The north-west branch of the Miramichi River, with all its tributaries, extending from its junction with the Main River to its sources.
Parker, Thomas	do	Derby	District No. 5—The south-west branch of the Miramichi River, with all its tributaries, extending from its junction with the Main River to its sources.
		Queen's County.	
Cass, Mayes	do	Wickham	The whole county of Queen's.
		Restigouche County	
McPherson, Alex	do	River Charlo	From Belledune to Dalhousie.
		Sunbury County.	
Griffith, Chas	Warden	Sheffield	St. John River, Indiantown to County Line of York.
Hoben, G. W	Overseer	Burton	do do do
		St. John County:	
Cochrane, John	do	I.C.R. Station St. John	City of St. John and vicinity with special reference to the detection and seizures of illegally caught fish shipped by railway.
O'Brien, John	do	Carleton, St. John.	St. John County.
Rourke, E. V	do	St. Martin's	Eastern part of St. John County, from Quaco Head to Goose River.
		Victoria County.	
Ryan, Thos. D	do	Grand Falls	County of Victoria.
		Westmoreland County.	
Cormier, D. T	do	Pré d'en haut	Dorchester Bay.
Goodwin, Robt	do	Bay Verte	The Parishes of Sackville and Westmoreland.
		York County.	
Orr, Robt	do	Fredericton	County of York.

SCHEDULE of Fishery Officers, &c—*Continued.*

PROVINCE OF PRINCE EDWARD ISLAND.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
A. Lord	Agent of Marine & Fisheries & Fishery Officer	Charlottetown	Having jurisdiction over the whole of P. E. I.
Edward Hackett	Inspector of Fisheries	Tignish	Prince Edward Island.
Patrick McBride	Overseer	Central Bedeque	Lot 26.—The county of Prince.

PROVINCE OF MANITOBA.

McQueen, Alex	Inspector	Winnipeg	Province of Manitoba.—Also the direct superintendence of District No. 3.
			1. Souris District—Bounded on the north by the 50th parallel of latitude from the western boundary of the province easterly to the 99th meridian line; on the east by the 99th meridian line from the 50th parallel southerly to the international boundary; on the south by the international boundary line to the western boundary of the province, and on the west by the western boundary of the province from the international boundary northerly to the 50th parallel north latitude.
			2. Portage la Prairie District—Bounded on the north by the 50th parallel of latitude from the 99th meridian line, easterly to the first principal meridian line; on the east by the first principal meridian line from the 50th parallel, southerly to the international boundary line from the first principal meridian line, westerly to the 99th meridian line; and on the west by the 99th meridian line from the international boundary line to the 50th parallel of latitude.
McQueen, Alex	Inspector	Winnipeg	3. Provencher District—Bounded on the north by the 50th parallel of latitude from the first principal meridian to the easterly boundary of the province; on the east by the eastern boundary of the province from the 50th parallel of latitude, southerly to the international boundary; on the south by the international boundary line from the eastern boundary of the province, westerly to the first principal meridian; and on the west by the first principal meridian from the international boundary, northerly to the 50th parallel of latitude.
			4. First Lake Winnipeg District—Bounded on the north by the 51st parallel of latitude from the first principal meridian, easterly to the eastern boundary of the province; on the east by the eastern boundary of the province from the 51st parallel of latitude, southerly to the 50th parallel of latitude; on the south by the 50th parallel of latitude from the eastern boundary of the province, westerly to the first principal meridian; and on the west by the first principal meridian from the 50th parallel of latitude, northerly to the 51st parallel.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF MANITOBA—*Continued.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
....	....	....	5. Lower Lake Manitoba District—Bounded on the north by the 51st parallel of latitude from the 99th meridian, easterly to the first principal meridian; on the east by the first principal meridian line from the 51st parallel of latitude, southerly to the 50th paralled; on the south by the 50th parallel of latitude from the first principal meridian, westerly to the 99th meridian line; and on the west by the 99th meridian line from the 50th parallel of latitude, northerly to the 51st parallel.
Tuckle, J. A	Overseer....	Birtle	6. Little Saskatchewan District.—Bounded on the north by the 51st parallel of latitude from the western boundary of the province, easterly to the 99th meridian line; on the east by the 99th meridian line from the 51st parallel of latitude, southerly to the 50th parallel; on the south by the 50th parallel of latitude from the 99th meridian line, westerly to the western boundary; and on the west by the western boundary of the province from the 50th parallel of latitude, northerly to the 51st parallel.
....	....	... .	7. Lake Dauphin District—Bounded on the north by the 52nd parallel of latitude from the western boundary of the province, easterly to the 99th meridian line; on the east by the 99th meridian line from the 52nd parallel of latitude, southerly to the 51st parallel; on the south by the 51st parallel of latitude from the 99th meridian line, westerly to the western boundary of the province; and on the west by the western boundary of the province from the 51st parallel of latitude, northerly to the 52nd parallel.
Martineau, H.....	Overseer ...	Manitoba House..	8, Upper Lake Manitoba District—Bounded on the north by the 52nd parallel of latitude from the 99th meridian line, easterly to the first principal meridian; on the east by the first principal meridian line from the 52nd parallel of latitude, southerly to the 51st parallel; on the south by the 51st parallel of latitude from the first principal meridian to the 99th meridian line; and on the north by the 52nd parallel of latitude from the 99th meridian line, easterly to the first principal meridian.
....	....	.....	9. Second Lake Winnipeg District.—Bounded on the north by the 52nd parallel of latitude from the first principal meridian, easterly to the eastern boundary of the province; on the east by the eastern boundary of the province from the 52nd parallel of latitude, southerly to the 51st parallel; on the south by the 51st parallel of latitude from the eastern boundary of the province westerly to the first principal meridian, and on the west by the first principal meridian from the 51st parallel of latitude southerly to the 52nd parallel.

SCHEDULE of Fishery Officers, &c.—*Continued.*

PROVINCE OF MANITOBA—*Concluded.*

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
			10. Third Lake Winnipeg District—Bounded on the north by the northern boundary of the province from the 99th meridian line, easterly to the eastern boundary of the province; on the east by the eastern boundary of the province to the northern boundary of Manitoba, southerly to the 52nd parallel of latitude; on the south by the 52nd parallel of latitude from the eastern boundary of the province, westerly to the 99th meridian line, and on the west by the 99th meridian line from the 52nd parallel of latitude, northerly to the northern boundary of the province.
			11. Lake Winnipegosis District—Bounded on the north by the northern boundary of the province from the westerly boundary thereof easterly to the 99th meridian line; on the east by the 99th meridian line from the northern boundary of the province southerly to the 52nd parallel of latitude; on the south by the 52nd parallel of latitude from the 99th meridian line, westerly to the western boundary of the province from the 52nd parallel of latitude, northerly to the northern boundary of Manitoba.
			12. Grand Rapids District—Bounded on the north by the 54th parallel of latitude from a line in continuation of the western boundary of Manitoba, easterly to the 99th meridian line, on the east of the 99th meridian line from the 54th parallel of latitude, southerly to the north boundary of Manitoba; on the south by the northern boundary of the province from the 99th meridian line, westerly to the western boundary of Manitoba, and on the west by a line in continuation of the western boundary of the province, northerly to the 54th parallel of latitude.
			13. Fourth Lake Winnipeg District—Bounded on the north by the 54th parallel of latitude from the 99th meridian line, easterly to the 95th meridian line; on the east by the 95th meridian line from the 54th parallel of latitude, southerly to the northern boundary of Manitoba; on the south by the northern boundary of Manitoba from the 95th meridian line, westerly to the 99th meridian line; on the west by the 99th meridian line from the northern boundary of Manitoba northerly to the 54th parallel of latitude.
Gunne, Robt	Overseer	Winnipeg	Each within the limits of his district as a forest ranger.
Toole, Wm	do	do	
Fee, Michael	do	do	
Stevenson, E. F	do	do	Within his district as Crown timber agent.

SCHEDULE Fishery Officers, &c.—*Continued.*

NORTH-WEST TERRITORIES.

Name.	Rank.	P. O. Address.	Extent of Jurisdiction.
Gilchrist, F. C.	Inspector.	Fort Qu'Appelle	The North-west Territories.
Foster, John	Overseer.	Silton	Long Lake, N.W.T.
Lucas, S. B.	do	Holbrooke	District of Peace Hills, Alberta.
McKenzie, R. S.	do	Stobart	do Prince Albert, Saskatchewan.
Johnston, A. E.	do	Edmonton	Fishery divisions comprise the limits of each officer's district as a forest ranger.
Thompson, J. R	do	Calgary	
Cook, R. S.	do	Prince Albert	
Aikman, T. H.	do	Care of the Commissioner of Dominion Lands, Winnipeg	Fishery divisions comprise the limits of each officer's district as a homestead inspector in Manitoba and the North-west Territories.
Rogers, John	do		
Park, R. S.	do		
Arsenault, J. J.	do		
Allison, John	do		
Allison, W. H.	do		
De Balinhard, W. C.	do		

PROVINCE OF BRITISH COLUMBIA.

McNab, John	Inspector	New Westminster.	Province of British Columbia.
McKay, J. W.	Overseer	Kamloops	District of Yale.
Meason, W. C.	do	William's Lake	The limit of his district as Indian agent.
Phillips, Michael	do	Kootenay	do do do
Higginson, T. S.	do	New Westminster.	do do Crown timber agent.

All captains of the Fisheries Protection Service are also fishery officers, with power of a justice of the peace for all purposes of the Fisheries Act. For the year 1892 they were as follows:—

Lt. O. V. Spain, R.N., of the ss. "Acadia."
Capt. S. Bélanger, of the ss. "La Canadienne."
Capt. A. Finlayson, of the ss. "Stanley."
*Capt. J. H. Pratt, of the ss. "Curlew."
Capt. Geo. M. May, of the ss. "Constance."
Capt. C. T. Knowlton, of the schr. "Vigilant."
Capt. W. H. Kent, of the schr. "Kingfisher."

Besides the above named the following were also appointed fishery officers:—

Capt. Charles Koenig, of ss. "Alert," for Province of Quebec.
Capt. Caleb A. Atkins, of ss. "Newfield," for Province of Nova Scotia.
Capt. Chas. T. Daykin, of ss. "Lansdowne," for Province of New Brunswick.
Capt. Alex. M. Macgregor, of ss. "Bayfield," for Province of Ontario.

NOTE—Capt. Pratt is also inspector of fisheries for the county of Charlotte, N.B.

SCHEDULE of Fishery Officers, &c.—*Concluded.*

FISH CULTURE.

Name.	Rank.	P. O. Address.
Samuel Wilmot	Superintendent of Fish Culture for the Dominion	Ottawa.
Charles Wilmot	Inspector of hatcheries	Newcastle, Ont.
John Kennefick	Officer in charge of Government Fish Hatchery	do
William Parker	do do	Sandwich, Ont.
John Walker	do do	Ottawa.
L. N. Catellier	do do	Tadousac, Que.
Henry Davis	do do	Gaspé Basin, Que.
Alex. Mowat	do do	Campbellton, N.B.
A. H. Moore	do do	Magog, Que.
A. B. Wilmot	do do	Bedford Basin, N.S.
C. A. Farquharson	do do	Sydney, C.B., N.S.
Isaac Sheasgreen	do do	South Esk, N.B.
Chas. McCluskey	do do	Grand Falls, N.B.
John McNab	do do	New Westminster, B.C.
A. Ogden	do Government Lobster Hatchery	Bay View, Pictou, N.S.

RECAPITULATION.

Provinces.	No. of officers.
Ontario	103
Quebec	74
Nova Scotia	83
New Brunswick	64
Prince Edward Island	4
Manitoba and North-west Territories	21
British Columbia	5
Fish Culture	15
Officers and crews of seven fisheries protection vessels	166
Total	535

In addition to the above regular staff, 175 temporary local guardians were employed during the year as occasion required.

APPENDIX No. 2.

FISHING BOUNTIES.

GENERAL STATEMENT of Fishing Bounty Claims received for the Year 1891.

Province.	County.	No. of Claims received.	No. of Claims rejected.	No. of Claims held in abeyance.	No. of Claims paid.
Nova Scotia	Annapolis	203	8		195
	Antigonish	139	4		135
	Cape Breton	532	26		506
	Digby	372	3		373*
	Guysboro'	1,358	24		1,334
	Halifax	1,970	36	1	1,936*
	Inverness	702	6		696
	King's	77	1		76
	Lunenburg	1,189	17		1,172
	Pictou	37	1		36
	Queen's	337	2		335
	Richmond	1,232	26		1,210*
	Shelburne	880	6		874
	Victoria	948	28		920
	Yarmouth	266	2		265*
	Totals	10,242	190	1	10,063
New Brunswick	Charlotte	784	37		747
	Gloucester	1,645	677		968
	Kent	323	32		291
	Northumberland	19			19
	Restigouche	4			4
	St. John	48			48
	Westmoreland	8	1		7
	Totals	2,831	747		2,084
Prince Edward Island	King's	812	21		792*
	Prince	494	19		482*
	Queen's	176	4		172
	Totals	1,482	44		1,446
Quebec	Bonaventure	1,909	139		1,770
	Gaspé	2,571	47		2,525*
	Rimouski	67			67
	Saguenay	561	10		551
	Totals	5,108	196		4,913

RECAPITULATION.

Nova Scotia	10,242	190	1	10,063
New Brunswick	2,831	747		2,084
Prince Edward Island	1,482	44		1,446
Quebec	5,108	196		4,913
Grand Totals	19,663	1,177	1	18,506

* NOTE—The number of Bounty Claims paid for 1891 includes several applications for the years 1889 and 1890 held in abeyance for enquiry. This will explain the difference between claims paid and claims received after deducting those rejected and held in abeyance.

GENERAL STATEMENT of Payments made on account of Fishing Bounty Claims to **Boats** and **Vessels**, for the year 1891.

Province.	County.	Amount paid.	Total.
		$ cts.	$ cts.
Nova Scotia	Annapolis	1,571 24	
	Antigonish	919 00	
	Cape Breton	3,723 35	
	Digby	3,933 89	
	Guysboro'	9,470 35	
	Halifax	13,706 51	
	Inverness	5,853 90	
	King's	618 50	
	Lunenburg	19,457 68	
	Pictou	228 00	
	Queen's	2,748 46	
	Richmond	10,164 17	
	Shelburne	7,988 44	
	Victoria	6,465 13	
	Yarmouth	5,535 80	
			92,384 42
New Brunswick	Charlotte	5,670 52	
	Gloucester	8,454 84	
	Kent	2,161 10	
	Northumberland	445 50	
	Restigouche	31 00	
	St. John	424 00	
	Westmoreland	49 00	
			17,235 96
Prince Edward Island	King's	6,054 03	
	Prince	4,938 14	
	Queen's	1,779 13	
			12,771 30
Québec	Bonaventure	11,657 13	
	Gaspé	18,133 25	
	Rimouski	399 00	
	Saguenay	4,317 79	34,507 17
			156,898 85
	LESS—Refunds, N.S. Boats		7 00
	Grand total		156,891 85

DETAILED STATEMENT showing Fishing Bounties paid to Vessels in each County, for the Year 1891.

Province.	County.	Number of Vessels.	Tonnage.	Average Tonnage.	No. of Men.	Amount paid.
						$ cts.
Nova Scotia	Annapolis	10	364	36	63	498 24
	Antigonish	1	11	11	1	11 00
	Cape Breton	7	132	19	28	184 35
	Digby	51	1,285	25	338	1,820 89
	Guysboro'	16	519	32	81	756 35
	Halifax	90	2,309	26	486	3,262 51
	Inverness	12	348	29	75	498 90
	King's	7	101	14	21	151 50
	Lunenburg	144	9,929	69	1,707	14,664 68
	Queen's	10	520	52	107	770 46
	Richmond	71	2,151	30	464	3,165 17
	Shelburne	51	2,068	41	489	2,965 44
	Victoria	2	48	24	6	67 13
	Yarmouth	55	2,995	54	752	4,366 80
	Totals	527	22,780	43	4,618	33,183 42
New Brunswick	Charlotte	64	1,091	17	187	1,540 52
	Gloucester	43	567	13	138	820 84
	Kent	5	86	17	22	117 10
	Northumberland	7	235	34	46	346 50
	St. John	5	72	14	18	108 00
	Totals	124	2,051	17	411	2,932 96
Prince Edward Island	King's	12	369	31	71	528 03
	Prince	11	339	31	67	484 14
	Queen's	4	70	17	17	99 13
	Totals	27	778	29	155	1,111 30
Quebec	Bonaventure	2	36	18	6	52 13
	Gaspé	7	262	37	51	371 25
	Saguenay	18	626	35	111	927 79
	Totals	27	924	34	168	1,351 17

RECAPITULATION.

Nova Scotia	527	22,780	43	4,618	33,183 42
New Brunswick	124	2,051	17	411	2,932 96
Prince Edward Island	27	778	29	155	1,111 30
Quebec	27	924	34	168	1,351 17
Grand totals	705	26,533	38	5,352	38,578 85

DETAILED STATEMENT of Fishing Bounties paid to **Boats** for the Year 1891.

Province.	County.	Number of Boats.	Number of Men.	Amount paid.
				$ cts.
Nova Scotia	Annapolis	185	296	1,073 00
	Antigonish	134	258	908 00
	Cape Breton	499	1,014	3,539 00
	Digby	322	597	2,113 00
	Guysboro'	1,318	2,466	8,714 00
	Halifax	1,843	2,866	10,444 00
	Inverness	684	1,560	5,355 00
	King's	68	133	467 00
	Lunenburg	1,028	1,255	4,793 00
	Pictou	36	64	228 00
	Queen's	325	551	1,978 00
	Richmond	1,137	1,944	6,999 00
	Shelburne	823	1,400	5,023 00
	Victoria	914	1,828	6,398 00
	Yarmouth	209	320	1,169 00
	Totals	9,525	16,552	59,201 00
New Brunswick	Charlotte	682	1,149	4,130 00
	Gloucester	894	2,248	7,634 00
	Kent	286	586	2,044 00
	Northumberland	12	29	99 00
	Restigouche	4	9	31 00
	St. John	43	91	316 00
	Westmoreland	7	14	49 00
	Totals	1,928	4,126	14,303 00
Prince Edward Island	King's	775	1,586	5,526 00
	Prince	440	1,337	4,454 00
	Queen's	168	504	1,680 00
	Totals	1,383	3,427	11,660 00
Quebec	Bonaventure	1,751	3,284	11,605 00
	Gaspé	2,515	5,054	17,762 00
	Rimouski	67	111	399 00
	Saguenay	532	953	3,390 00
	Totals	4,865	9,402	33,156 00

RECAPITULATION.

Nova Scotia	9,525	16,552	59,201 00
New Brunswick	1,928	4,126	14,303 00
Prince Edward Island	1,383	3,427	11,660 00
Quebec	4,865	9,402	33,156 00
Totals	17,701	33,507	118,320 00
LESS—Refunds, N. S. Boats			7 00
Grand total			118,313 00

Comparative Statement of Fishing Bounties Paid, from 1882 to 1891 inclusive.

Number.	Province	County.	1882. Vessels. Amount.	1882. Boats. Amount.	1882. Total.	1883. Vessels. Amount.	1883. Boats. Amount.	1883. Total.	1884. Vessels. Amount.	1884. Boats. Amount.	1884. Total.	Number.
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
1	Nova Scotia	Annapolis	472 00	1,998 00	2,470 00	838 00	1,207 50	2,045 50	648 00	1,503 50	2,151 50	1
2		Antigonish	.....	840 00	840 00	.....	482 50	482 50	.....	799 50	799 50	2
3		Cape Breton	294 00	5,167 00	5,461 00	436 00	2,853 50	3,289 50	383 00	3,909 00	4,292 00	3
4		Colchester	.....	.....	.....	.....	.....	.....	64 00	.....	64 00	4
5		Cumberland	.....	20 00	20 00	.....	.....	.....	.....	7 50	7 50	5
6		Digby	1,436 00	4,118 66	5,554 66	2,652 00	2,182 50	4,834 50	3,322 84	2,234 50	5,557 34	6
7		Guysboro'	2,380 73	7,913 75	10,294 48	2,914 00	4,645 00	7,559 00	3,371 90	6,485 50	9,857 40	7
8		Halifax	3,599 50	11,118 31	14,717 81	6,020 00	6,080 50	12,100 50	5,834 00	7,898 00	13,732 00	8
9		Inverness	950 00	5,432 00	6,382 00	572 00	3,422 50	3,994 50	1,208 00	4,522 00	5,730 00	9
10		King's	46 00	125 00	171 00	146 00	157 50	303 50	196 00	70 50	266 50	10
11		Lunenburg	15,161 03	3,112 00	18,273 03	17,658 00	1,850 00	19,508 00	19,648 24	3,162 00	22,810 24	11
12		Pictou	202 00	95 00	297 00	202 00	120 00	322 00	177 76	107 50	285 26	12
13		Queen's	1,638 00	1,917 00	3,555 00	1,826 00	810 00	2,636 00	2,408 00	836 50	3,244 50	13
14		Richmond	3,853 15	7,998 50	11,851 65	3,558 00	4,225 00	7,783 00	3,266 58	6,325 00	9,591 58	14
15		Shelburne	7,294 00	4,332 00	11,626 00	8,744 00	2,326 50	11,070 50	8,928 27	2,781 50	11,709 77	15
16		Victoria	284 00	4,861 00	5,145 00	492 00	2,830 50	3,322 50	60 00	4,045 50	4,105 50	16
17		Yarmouth	7,825 09	1,615 00	9,440 09	9,486 00	695 00	10,181 00	9,758 00	971 50	10,729 50	17
18		Totals	45,435 50	60,663 22	106,098 72	55,544 00	33,888 50	89,432 50	59,274 59	45,659 50	104,934 09	18
19	New Brunswick	Charlotte	2,140 00	5,641 00	7,781 00	2,380 00	2,830 00	5,210 00	2,792 00	3,035 00	5,827 00	19
20		Gloucester	422 00	5,368 00	5,790 00	492 00	3,568 50	4,060 50	508 00	4,799 00	5,307 00	20
21		Kent	768 00	965 00	1,733 00	266 00	1,197 50	1,463 50	246 00	764 50	1,010 50	21
22		Northumberland	.....	45 00	45 00	68 00	52 50	120 50	66 00	68 00	134 00	22
23		Restigouche	28 00	.....	28 00	52 00	.....	52 00	.....	.....	.....	23
24		St. John	984 00	591 00	1,575 00	861 20	587 50	1,448 70	956 00	260 00	1,216 00	24
25		Westmoreland	.....	45 00	45 00	.....	40 00	40 00	.....	81 50	81 50	25
26		Totals	4,342 00	12,655 00	16,997 00	4,119 20	8,276 00	12,395 20	4,568 00	9,008 00	13,576 00	26

COMPARATIVE STATEMENT of Fishing Bounties Paid, from 1882 to 1891, inclusive—*Continued.*

Number.	Province.	County.	1882. Vessels. Amount.	1882. Boats. Amount.	1882. Total.	1883. Vessels. Amount.	1883. Boats. Amount.	1883. Total.	1884. Vessels. Amount.	1884. Boats. Amount.	1884. Total.	Number.
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
27	P. E. Island	King's	252 00	5,024 00	5,276 00	293 14	2,790 50	3,083 64	475 44	3,028 00	3,503 44	27
28		Prince	316 00	6,709 00	7,025 00	418 00	3,429 50	3,847 50	520 00	3,642 00	4,162 00	28
29		Queen's	210 00	3,626 00	3,836 00	96 00	1,550 00	1,646 00	65 02	1,473 50	1,538 52	29
30		Totals	778 00	15,359 00	16,137 00	807 14	7,770 00	8,577 14	1,060 46	8,143 50	9,203 96	30
31	Quebec	Bonaventure		8,945 00	8,945 00		3,846 50	3,846 50		5,508 00	5,508 00	31
32		Gaspé	2,070 00	17,899 75	19,969 75	2,152 00	9,302 50	11,454 50	1,906 00	13,879 50	15,785 50	32
33		Rimouski										33
34		Saguenay	2,350 00	1,773 00	4,123 00	2,320 01	2,319 00	4,639 01	2,023 09	4,687 50	6,711 43	34
35		Temiscouata		15 00	15 00							35
36		Totals	4,420 00	28,632 75	33,052 75	4,472 01	15,468 00	19,940 01	3,929 93	24,075 00	28,004 93	36

RECAPITULATION.

37	Nova Scotia		45,435 50	60,663 22	106,098 72	55,544 00	33,888 50	89,432 50	59,274 59	45,659 50	104,934 09	37
38	New Brunswick		4,342 00	12,655 00	16,997 00	4,119 20	8,276 00	12,395 20	4,568 00	9,008 00	13,576 00	38
39	P. E. Island		778 00	15,359 00	16,137 00	807 14	7,770 00	8,577 14	1,060 46	8,143 50	9,203 96	39
40	Quebec		4,420 00	28,632 75	33,052 75	4,472 01	15,468 00	19,940 01	3,929 93	24,075 00	28,004 93	40
41		Totals	54,975 50	117,309 97	172,285 47	64,942 35	65,402 50	130,344 85	68,832 98	86,886 00	155,718 98	41

COMPARATIVE STATEMENT of Fishing Bounties paid, from 1882 to 1891, inclusive—*Continued.*

Number.	Province.	County.	1885.			1886.			1887.			Number.
			Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ ct.	$ cts.	
1	Nova Scotia	Annapolis	430 08	1,180 00	1,610 08	431 60	1,063 50	1,495 10	305 27	1,162 00	1,467 27	1
2		Antigonish	.....	982 50	982 50	.....	832 00	832 00	.....	924 50	924 50	2
3		Cape Breton	210 00	4,012 50	4,222 50	392 00	3,765 00	4,157 00	374 14	3,600 00	3,974 14	3
4		Colchester	74 00	.....	74 00	74 00	.....	74 00	74 00	.....	74 00	4
5		Cumberland	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
6		Digby	3,036 02	1,993 00	5,029 02	2,131 79	1,924 50	4,056 29	2,671 34	1,582 50	4,253 84	6
7		Guysboro'	3,312 53	7,129 50	10,442 03	2,936 90	7,521 00	10,457 90	2,210 58	7,963 50	10,174 08	7
8		Halifax	5,984 77	8,398 00	14,382 77	4,947 62	8,200 50	13,147 52	5,097 61	8,333 50	13,431 11	8
9		Inverness	844 00	4,913 50	5,797 50	1,294 12	5,265 00	6,559 12	1,582 88	5,091 00	6,673 88	9
10		King's	54 00	185 50	239 50	96 00	297 50	393 50	218 00	242 00	460 00	10
11		Lunenburg	17,315 34	2,947 00	20,262 34	16,755 64	3,122 00	19,877 64	16,154 33	3,751 50	19,905 83	11
12		Pictou	154 00	132 00	286 00	156 00	94 50	250 50	.....	130 00	130 00	12
13		Queen's	1,854 00	1,190 50	3,044 50	1,814 60	957 00	2,781 00	1,650 00	1,212 50	2,862 50	13
14		Richmond	3,164 49	7,046 00	10,210 49	2,650 00	6,941 00	9,591 00	2,762 86	7,704 00	10,466 86	14
15		Shelburne	9,198 00	3,201 50	12,399 50	7,880 67	3,072 00	10,952 67	6,678 62	3,687 00	10,365 62	15
16		Victoria	166 00	4,487 00	4,653 00	222 20	4,599 50	4,821 70	88 00	4,600 50	4,688 50	16
17		Yarmouth	9,415 50	968 50	10,384 00	8,513 60	829 00	9,342 60	8,539 40	1,230 50	9,769 90	17
18		Totals	55,252 73	48,767 00	104,019 73	50,295 54	48,494 00	98,789 54	48,407 03	51,215 00	99,622 03	18
19	New Brunswick	Charlotte	2,508 25	3,937 00	6,445 25	2,579 67	4,246 00	6,825 67	3,292 65	4,681 50	7,974 15	19
20		Gloucester	452 00	5,876 00	6,328 00	516 00	6,462 00	6,978 00	618 75	7,136 00	7,754 75	20
21		Kent	184 00	1,309 50	1,493 50	206 00	1,473 50	1,679 50	370 00	1,728 50	2,098 50	21
22		Northumberland	180 00	80 50	260 50	592 00	80 50	672 50	445 00	229 00	674 00	22
23		Restigouche	.....	.....	.....	28 00	7 00	35 00	.....	.....	.....	23
24		St. John	902 00	367 50	1,269 50	1,054 40	424 00	1,478 40	786 25	291 00	1,077 25	24
25		Westmoreland	.....	111 50	111 50	.....	225 50	225 50	.....	121 00	121 00	25
26		Totals	4,226 25	11,682 00	15,908 25	4,976 07	12,918 50	17,894 57	5,512 65	14,187 00	19,699 65	26

COMPARATIVE STATEMENT of Fishing Bounties paid, from 1882 to 1891, inclusive—*Continued.*

Number.	1888.			1889.			1890.			1891.			Grand Total	Number.
	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.	Vessels. Amount.	Boats. Amount.	Total.		
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
1	217 01	1,153 50	1,370 51	182 31	1,044 00	1,226 31	234 58	799 00	1,033 58	498 24	1,073 00	1,571 24	16,441 09	1
2	.....	1,063 50	1,063 50	.....	1,012 00	1,012 00	13 75	882 00	895 75	11 00	908 00	919 00	8,751 25	2
3	423 33	3,618 00	4,041 33	307 47	3,470 00	3,777 47	455 19	3,896 00	4,351 19	184 35	3,539 00	3,723 35	41,289 48	3
4	85 50	.....	85 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	371 50	4
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27 50	5
6	1,696 68	1,749 50	3,446 18	1,721 61	1,608 00	3,329 61	1,381 05	1,727 00	3,108 05	1,820 89	2,113 00	3,933 89	43,103 38	6
7	1,289 71	8,274 50	9,564 21	974 57	8,093 00	9,067 57	500 44	8,349 00	8,849 44	756 35	8,714 00	9,470 35	95,736 46	7
8	3,809 99	7,806 00	11,615 99	4,367 08	7,789 00	12,156 08	3,950 57	9,268 00	13,218 57	3,262 51	10,444 00	13,706 51	132,208 86	8
9	1,247 90	5,432 00	6,679 90	1,037 96	5,170 00	6,207 96	732 67	5,094 00	5,826 67	498 90	5,355 00	5,853 90	59,705 43	9
10	123 45	272 50	395 95	112 50	212 00	324 50	147 38	361 00	508 38	151 50	467 00	618 50	3,681 33	10
11	13,893 81	3,794 00	17,687 81	17,184 42	3,577 00	20,761 42	15,957 09	4,606 00	20,563 09	14,664 68	4,793 00	19,457 68	199,107 08	11
12	.....	110 50	110 50	33 00	120 00	153 00	.....	146 00	146 00	.....	228 00	228 00	2,208 26	12
13	1,495 82	1,174 00	2,669 82	1,524 06	1,499 00	3,023 06	942 00	1,825 00	2,767 00	770 46	1,978 00	2,748 46	29,331 84	13
14	2,390 65	8,108 50	10,499 15	2,825 92	6,534 00	9,359 92	2,963 30	8,008 00	10,971 30	3,165 17	6,999 00	10,164 17	100,489 12	14
15	5,193 59	3,842 50	9,036 09	4,127 80	4,240 00	8,367 80	3,087 27	4,680 00	7,767 27	2,965 44	5,023 00	7,988 44	101,283 66	15
16	36 00	4,963 50	4,999 50	21 00	5,030 00	5,051 00	...	5,477 00	5,477 00	67 13	6,398 00	6,465 13	48,728 83	16
17	5,661 46	858 50	6,519 96	5,428 81	896 00	6,324 81	4,771 35	1,005 00	5,776 35	4,366 80	1,169 00	5,535 80	84,004 01	17
18	37,564 90	52,221 00	89,785 90	39,848 51	50,294 00	90,142 51	35,136 64	56,123 00	91,259 64	33,183 42	59,201 00	92,384 42	966,469 08	18
19	2,113 50	4,447 50	6,561 00	2,127 16	4,803 00	6,930 16	1,678 07	4,644 00	6,322 07	1,540 52	4,130 00	5,670 52	65,546 82	19
20	537 46	8,212 50	8,749 96	590 95	9,822 00	10,412 95	812 15	10,811 00	11,623 15	820 84	7,634 00	8,454 84	75,459 15	20
21	244 48	1,770 50	2,014 98	71 50	2,177 15	2,248 65	76 50	2,235 85	2,312 35	117 10	2,044 00	2,161 10	18,215 58	21
22	155 34	73 00	228 34	414 37	85 00	499 37	216 26	77 00	293 26	346 50	99 00	445 50	3,372 97	22
23	28 50	.....	28 50	21 00	7 00	28 00	.....	.....	.....	.....	31 00	31 00	202 50	23
24	487 64	312 00	799 64	487 66	377 00	864 66	274 50	249 00	523 50	108 00	316 00	424 00	10,676 65	24
25	.....	72 50	72 50	.....	43 00	43 00	.....	37 00	37 00	.....	49 00	49 00	826 00	25
26	3,566 92	14,888 00	18,454 92	3,712 64	17,314 15	21,026 79	3,057 48	18,053 85	21,111 33	2,932 96	14,303 00	17,235 96	174,299 67	26

COMPARATIVE STATEMENT of Fishing Bounties paid, from 1882 to 1891, inclusive—*Continued.*

Number.	Province.	County.	1885. Vessels. Amount.	1885. Boats. Amount.	1885. Total.	1886. Vessels. Amount.	1886. Boats. Amount.	1886. Total.	1887. Vessels. Amount.	1887. Boats. Amount.	1887. Total.	Vessels. Amount.	Number.
			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
27	P. E. Island....	King's..... ...	626 15	4,090 50	4,716 65	770 44	4,149 50	4,919 94	1,225 78	4,396 00	5,621 78	654 06	27
28		Prince.	426 00	3,552 50	3,978 50	967 40	3,413 00	4,380 40	1,127 00	3,636 00	4,763 00	782 00	28
29		Queen's	76 00	1,433 50	1,509 50	271 53	1,364 00	1,635 53	734 73	1,409 00	2,143 73	180 90	28
30		Totals.....	1,128 15	9,076 50	10,204 65	2,009 37	8,926 50	10,935 87	3,087 51	9,441 00	12,528 51	1,616 96	30
31	Quebec.....	Bonaventure....	... ...	8,005 00	8,005 00	.....	9,294 00	9,294 00	.....	8,862 00	8,862 00	.....	31
32		Gaspé	1,524 26	14,900 50	16,424 76	1,176 98	15,465 50	16,642 48	1,233 98	15,335 25	16,569 23	1,098 05	32
33		Rimouski	... .	.....	.....	.....	.....	.....	.....	.....	.....	.....	33
34		Saguenay..	1,988 00	5,047 00	7,035 00	2,227 63	5,119 50	7,347 13	2,354 00	4,122 50	6,476 50	1,573 20	34
35		Temiscouata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35
36		Totals.....	3,512 26	27,952 50	31,464 76	3,404 61	29,879 00	33,283 61	3,587 98	28,319 75	31,907 73	2,671 25	36

RECAPITULATION.

37	Nova Scotia....	....	55,252 73	48,767 00	104,019 73	50,295 54	48,494 00	98,789 54	48,407 03	51,215 00	99,622 03	37,564 90	37
38	New Brunswick	... .	4,226 25	11,682 00	15,908 25	4,976 07	12,918 50	17,894 57	5,512 65	14,187 00	10,699 65	3,566 92	38
39	P. E. Island....	... .	1,128 15	9,076 50	10,204 65	2,009 37	8,926 50	10,935 87	3,087 51	9,441 00	12,528 51	1,616 96	39
40	Quebec.....	....	3,512 26	27,952 50	31,464 76	3,404 61	29,879 00	33,283 61	3,587 98	28,319 75	31,907 73	2,671 25	40
41		Totals.... .	64,119 39	97,478 00	161,597 39	60,685 59	100,218 00	160,903 59	60,595 17	103,162 75	163,757 92	45,420 03	41
				Less Refund....	58 00								
					161,539 39								

COMPARATIVE STATEMENT of Fishing Bounties paid, from 1882 to 1891, inclusive.—*Concluded.*

Number.	1888. Boats. Amount.	1888. Total.	1889. Vessels. Amount.	1889. Boats. Amount.	1889. Total.	1890. Vessels. Amount.	1890. Boats. Amount.	1890. Total.	1891. Vessels. Amount.	1891. Boats. Amount.	1891. Total.	Grand Total.	Number.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	
27	2,067 00	2,721 06	1,043 02	6,672 00	7,715 02	713 09	4,837 00	5,550 09	528 03	5,526 00	6,054 03	49,161 65	27
28	3,826 50	4,608 50	651 25	4,114 00	4,765 25	633 93	3,941 00	4,574 93	484 14	4,454 00	4,938 14	47,043 22	28
29	1,582 50	1,763 40	69 26	1,445 00	1,514 26	63 30	1,498 00	1,561 30	99 13	1,680 00	1,779 13	18,927 37	29
30	7,476 00	9,092 96	1,763 53	12,231 00	13,994 53	1,410 32	10,276 00	11,686 32	1,111 30	11,660 00	12,771 30	115,132 24	30
31	9,891 50	9,891 50	.....	10,689 00	10,689 00	51 76	11,894 00	11,945 76	52 13	11,605 00	11,657 13	88,643 89	31
32	16,527 50	17,625 55	856 34	16,597 00	17,453 34	376 51	16,914 00	17,290 51	371 25	17,762 00	18,133 25	167,348 87	32
33	27 50	27 50	.....	160 00	160 00	.....	145 00	145 00	.....	399 00	399 00	731 50	33
34	3,741 00	5,314 20	1,600 87	3,459 50	5,060 37	1,287 45	3,542 00	4,829 45	927 79	3,390 00	4,317 79	55,853 88	34
35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15 00	35
36	30,187 50	32,858 75	2,457 21	30,905 50	33,362 71	1,715 72	34,495 00	34,210 72	1,351 17	33,156 00	34,507 17	312,593 14	36

RECAPITULATION.

37	52,221 00	89,785 90	39,848 51	50,294 00	90,142 51	35,136 64	56,123 00	91,259 64	33,183 42	59,201 00	92,384 42	966,469 08	37
38	14,888 00	18,454 92	3,712 64	17,314 15	21,026 79	3,057 48	18,053 85	21,111 33	2,932 96	14,303 00	17,235 96	174,299 67	38
39	7,476 00	9,092 96	1,763 53	12,231 00	13,994 53	1,410 32	10,276 00	11,686 32	1,111 30	11,660 00	12,771 30	115,132 24	39
40	30,187 50	32,858 75	2,457 21	30,905 50	33,362 71	1,715 72	32,495 00	34,210 72	1,351 17	33,156 00	34,507 17	312,593 14	40
41	104,772 50	150,192 53	47,781 89	110,744 65	158,526 54	41,320 16	116,947 85	158,268 01	38,578 85	118,320 00	156,898 85	1,568,494 13	41
Less Refund....		7 00				Less Refund..		27 00	Less Refund.		7 00	99 00	
		150,185 53						158,241 01			156,891 85	1,568,395 13	

COMPARATIVE STATEMENT by Provinces for the Years 1882 to 1891 inclusive, showing:—

(1) Total number of Fishing Bounty claims received and paid by the Department of Marine and Fisheries.

YEAR.	NOVA SCOTIA.		NEW BRUNSWICK.		P. E. ISLAND.		QUEBEC.		TOTAL.	
	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.	Received.	Paid.
1882	6,730	6,613	1,257	1,142	1,169	1,100	3,162	3,117	12,318	11,972
1883	7,171	7,076	1,693	1,579	1,138	1,106	3,602	3,325	13,604	13,086
1884	7,007	6,930	1,252	1,224	923	885	3,470	3,429	12,652	12,468
1885	7,646	7,599	1,609	1,588	1,117	1,025	3,943	3,912	14,315	14,124
1886	7,639	7,702	1,767	1,763	1,131	1,080	4,275	4,355	14,812	14,900
1887	8,262	8,227	1,975	1,958	1,201	1,126	4,138	4,105	15,576	15,416
1888	8,481	8,429	2,065	2,026	1,153	834	4,328	4,310	16,027	15,599
1889	8,816	8,523	2,428	2,392	1,211	1,511	4,664	4,652	17,119	17,078
1890	9,337	9,429	2,522	2,469	1,352	1,257	4,860	4,804	18,071	17,959
1891	10,242	10,063	2,831	2,084	1,482	1,446	5,108	4,913	19,663	18,506
Totals	81,331	80,591	19,399	18,225	11,877	11,370	41,550	40,922	154,157	151,108

(2) NUMBER of vessels, tonnage and number of men entitled to bounty in each year.

YEAR.	NOVA SCOTIA.			NEW BRUNSWICK.			P. E. ISLAND.			QUEBEC.			TOTAL.		
	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.	No. of Vessels.	Tonnage.	No. of Men.
1882	588	22,841	5,343	120	2,171	531	15	389	74	63	2,210	538	786	27,611	6,486
1883	700	29,788	6,238	126	2,102	496	16	450	66	62	2,236	443	904	34,576	7,243
1884	700	29,828	6,327	139	2,289	560	16	582	92	56	1,965	382	911	34,664	7,361
1885	629	27,709	5,897	128	2,120	496	19	597	113	55	1,791	317	831	32,217	6,823
1886	562	25,375	5,022	145	2,628	520	32	1,071	215	52	1,730	320	791	30,804	6,077
1887	566	24,520	4,900	154	2,889	563	38	1,677	338	54	1,883	334	812	30,969	6,135
1888	589	26,008	5,450	150	2,545	544	37	1,245	249	51	1,842	388	827	31,640	6,631
1889	597	27,123	5,684	153	2,590	565	35	1,274	239	48	1,729	330	833	32,716	6,818
1890	540	23,955	4,935	133	2,129	447	32	1,002	203	34	1,182	220	739	28,268	5,805
1891	527	22,780	4,618	124	2,051	411	27	778	155	27	924	168	705	26,533	5,352
Totals	5,998	259,927	54,414	1,372	23,514	5,133	267	9,065	1,744	502	17,492	3,440	8,139	309,998	64,731

(3) Number of Boats among which Bounty was distributed, and number of men engaged in boat fishing receiving Bounty.

Year.	Nova Scotia.		New Brunswick.		P. E. Island.		Quebec.		Total.	
	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.	No. of Boats.	No. of Men.
1882.....	6,043	12,130	1,024	2,530	1,087	3,070	3,071	5,716	11,225	23,446
1883.....	6,458	13,553	1,453	3,309	1,098	3,106	3,266	6,188	12,275	26,156
1884.....	6,257	12,669	1,086	2,505	869	2,346	3,344	6,416	11,556	23,936
1885.....	6,970	13,396	1,460	3,254	1,006	2,606	3,857	7,485	13,293	26,741
1886.....	7,140	13,351	1,618	3,567	1,048	2,547	4,303	7,981	14,109	27,446
1887.....	7,662	13,997	1,804	3,994	1,088	2,711	4,051	7,550	14,605	28,252
1888.....	7,840	14,115	1,876	4,148	797	2,141	4,259	7,852	14,772	28,256
1889.....	7,926	14,118	2,237	5,032	1,475	3,568	4,602	8,807	16,240	31,525
1890.....	8,886	15,738	2,324	5,242	1,192	3,024	4,766	9,241	17,168	33,245
1891.....	9,525	16,552	1,928	4,126	1,383	3,427	4,865	9,402	17,701	33,507
Totals....	74,707	139,619	16,810	37,707	11,043	28,546	40,384	76,638	142,944	282,510

(4) Total Number of men receiving Bounty in each year.

Year.	Nova Scotia.	New Brunswick	P. E. Island.	Quebec.	Total.
	No. of men.	No. of men.	No. of men.	No. of men.	
1882.....	17,473	3,061	3,144	6,254	29,932
1883.....	19,791	3,805	3,172	6,631	33,399
1884.....	18,996	3,065	2,438	6,798	31,297
1885.....	19,293	3,750	2,719	7,802	33,564
1886.....	18,373	4,087	2,762	8,301	33,523
1887.....	18,897	4,557	3,049	7,884	34,387
1888.....	19,565	4,692	2,390	8,240	34,887
1889.....	19,802	5,597	3,807	9,137	38,343
1890.....	20,673	5,689	3,227	9,461	39,050
1891.....	21,170	4,537	3,582	9,570	38,859
Totals.....	194,033	42,840	30,290	80,078	347,241

(5.) TOTAL annual payments of Fishing Bounty.

YEAR.	Nova Scotia.	New Brunswick.	P. E. Island.	Quebec.	Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1882	106,098 72	16,997 00	16,137 00	33,052 75	172,285 47
1883	89,432 50	12,395 20	8,577 14	19,940 01	130,344 85
1884	104,934 09	13,576 00	9,203 96	28,004 93	155,718 98
1885	103,999 73	15,908 25	10,166 65	31,464 76	161,539 39
1886	98,789 54	17,894 57	10,935 87	33,283 61	160,903 59
1887	99,622 03	19,699 65	12,528 51	31,907 73	163,757 92
1888	89,778 90	18,454 92	9,092 96	32,858 75	150,185 53
1889	90,142 51	21,026 79	13,994 53	33,362 71	158,526 54
1890	91,235 64	21,108 33	11,686 32	34,210 72	158,241 01
1891	92,377 42	17,235 96	12,771 30	34,507 17	156,891 85
Totals	966,411 08	174,296 67	115,094 24	312,593 14	1,568,395 13

DETAILED STATEMENT of Fishing Bounties paid to Vessels, for the year 1891.

PROVINCE OF NOVA SCOTIA.

ANNAPOLIS COUNTY.

* This denotes that some of the crew did not comply with the regulations, or are debarred from participation in the bounty for being parties to fraud, and are not included in the column for crew.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
94,696	Annie M. Sproul	Digby	70	John W. Sproul	Granville	12	105 00
94,704	Charles Haskell	do	67	David Hayden	Lower Granville.	9*	82 56
85,684	Constitution	do	28	Stephen Haynes	Victoria Beach.	10	42 00
83,252	Ferland	Annapolis	138	Abraham Holmes	Lower Granville.	5*	110 00
94,700	Franklin S. Schenck	Digby	44	Fredk. W. Thorne	do	11*	63 25
80,001	Florence	St. John, N. B.	15	Geo. R. Weaver	Port George	2*	16 88
83,461	Josie L. Day	Digby	15	David Hayden	Lower Granville.	2*	14 47
75,594	Lizzie G.	do	16	John D. Apt	Victoria Beach.	5*	20 58
88,685	Ladora	St. John, N.'B.	12	Stephen Baker	Magaretsville	2	18 00
83,253	Rescue	Annapolis	17	Josiah Burrell	Clementsport	5	25 50

ANTIGONISH COUNTY.

96,787	Benecia Boy	Halifax	11	Lawrence Hylan	Strait of Canso.	1*	11 00

CAPE BRETON COUNTY.

88,507	Belle of Rome	Sydney	14	William Mann	Gabarus	5	21 00
100,372	Betsy Jane	do	11	Samuel Moore	Little Bras d'Or.	3	16 50
74,039	James Henry	do	18	Chas. W. Dunn	North Sydney	3*	23 63
75,577	Mary Ann Bell	Lunenburg	33	John Arseneault	Little Bras d'Or.	6*	45 97
92,600	Merit	Sydney	13	Alex. Leblanc	do	3	19 50
74,038	River Queen	do	32	Peter Desveaux	do	5*	44 00
77,857	Sailor's Bride	do	11	Edward O'Brien	do	3*	13 75

DIGBY COUNTY.

90,660	Alice May	Yarmouth	18	Bradish Bailey	Westport	8	27 00
75,612	Alice	do	17	J. Finigan *et al.*	Freeport	4*	21 26
83,258	Alfred	Annapolis	22	M. & E. Hains	do	8	33 00
83,431	Acadian	Weymouth	32	Leslie Stevens	do	8*	43 20
88,267	Bessie May	St. John, N. B.	23	Edgar McDormand	Westport	8*	32 59
83,421	Charlie	Weymouth	10	John H. Timpany	Rossway	3*	12 00
94,698	Carrie H.	Digby	20	Augustus Haycock	Westport	7	30 00
74,331	Condor	Yarmouth	11	Howard Titus	do	5	16 50
75,711	Dove	do	20	Joseph Ossinger	Tiverton	7	30 00
88,408	Elihu Burritt	Digby	50	Howard Allen	Digby	10*	68 76
94,692	Emma L. Gregory	do	75	Howard B. Allen	do	5	112 50
90,662	Edward A. Horton.	do	67	Joseph E. Snow	do	14	100 50
77,740	Elmer	do	15	Walter Coggins	Westport	6	22 50
85,683	Edith L.	do	16	Fredk. Coggins	do	5	24 00
75,757	Etta	Yarmouth	17	T. W. & J. W. C. Webber	do	6	25 50
80,797	Ella H.	Digby	13	John Whiteneck	Freeport	5	19 50

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

DIGBY COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
74,329	Fairy Queen	Yarmouth	13	Wallace Coggins	Westport	2*	13 01
80,798	Freddie G.	Digby	18	George Gower	do	4*	22 50
77,963	Freeman Colgate	St Andrew's, N.B.	26	Frank Morrell, M.O.	do	6*	36 22
75,601	Flash	Digby	10	James A. Peters	do	2	15 00
85,550	Fair Play	Yarmouth	10	John A. Powell	do	2*	10 50
83,260	Gazelle	Annapolis	20	D. & O. Sproule	Digby	7	30 00
80,800	Helen Maud	Digby	20	Chas. McDormand	Westport	7	30 00
80,799	Hattie T.	do	16	Frank P. Titus	do	3	24 00
100,064	Isma	St. John, N.B.	31	Chas. Hicks	do	9	46 50
97,026	James Farnham	Yarmouth	31	Margaret Hearsey, M.O	Digby	8*	41 86
94,695	John H. Kennedy	Digby	54	John W. Snow	do	13*	78 11
80,604	Jennie C.	Yarmouth	16	Charles Hicks	Westport	6	24 00
85,685	L. M. Ellis	Digby	35	Holland Outhouse	Tiverton	10	52 50
80,881	Lena May	St. Andrew's, N.B.	18	Amos H. Outhouse	do	7	27 00
85,690	Lora T	Digby	15	Joseph Thurber	Freeport	7	22 50
80,786	Lizzie P.	do	12	F. & N. Thurber	do	5	18 00
94,701	Mary E. Whorf	do	77	J. W. Snow & H. Anderson	Digby	11*	97 46
80,794	Minnie C.	do	18	Charles Bailey	Westport	6	27 00
85,682	Malapert	do	23	Ansley Titus	do	8	34 50
94,825	On Time	Weymouth	19	Moïse Thibodeau	Church Point	4*	22 41
94,703	Phœbe and Emma Small	Digby	70	A. D. Daley & Wm. Melancon	Digby	14*	101 50
90,873	Primrose	Yarmouth	34	Wm. McKenzie	Port Maitland	10	51 00
75,714	Prince	do	10	Geo. H. Stevens	Freeport	5	15 00
83,132	Restless	Digby	25	Jackson Coggins	Westport	8	37 50
77,956	Speed	Annapolis	13	Gilbert Ellis	Digby	5*	16 72
85,558	S. A. Crowell	Yarmouth	23	Wallace Gower	Westport	8	34 50
80,784	Silver Cloud	Digby	41	Handford Outhouse	Tiverton	6*	49 22
75,726	Thrush	Yarmouth	13	Chas. H. Outhouse	do	5	19 50
94,694	Utah and Eunice	Digby	33	M. & E. Haines	Freeport	8	49 50
37,282	Victoria	do	29	John Outhouse	Tiverton	10	43 50
75,595	West Wind	do	25	Lyda & Cousins	Digby	4*	29 47
74,317	Willie	Yarmouth	22	Colins Titus	Westport	2*	23 10
85,559	Willie F.	do	12	E. C. Thurber & B. Powell	Freeport	6	18 00
72,980	Wave	Digby	12	Samuel Thurber	do	5	18 00
75,722	Yuba	Yarmouth	15	George Denton	Westport	6	22 50

GUYSBORO' COUNTY.

90,844	Armada	Guysboro'	25	James O'Hara, M.O.	Coddle's Harbo'r	5*	32 15
47,771	Atalia	do	34	Thos. H. Peeples	Pirate Harbour	4	51 00
90,732	Charles Frederick	Port Hawkesb'ry	34	Osborne Maguire, M.O.	do	5	51 00
80,993	Gertie Belle	Guysboro'	14	Stephen Sweet	Isaac's Harbour	4	21 00
80,999	Guardian Angel	do	21	Joseph Fougère, jr	Larry's River	5*	27 00
57,715	John Lawrence	Halifax	23	Joseph Riley	Indian Harbour Lake	6	34 50
74,115	Lord Eldon	Guysboro'	58	James E. Hadley	Guysboro'	11	87 00
74,355	La Mode	Pictou	26	John O'Neil, M.O.	Auld's Cove	4	39 00
69,964	Lizzie A.	Port Hawkesb'ry	20	John F. Reeves, M.O.	Pirate Harbour	4	30 00
80,989	Laura	Guysboro'	93	E. C. Whitman	Canso	5	120 00
69,141	Mary Elizabeth	Halifax	16	Hubert Boudrot	Port Felix	3*	19 20
80,838	Ocean Bride	Port Hawkesb'ry	23	Philip Ryan	Middle Melford	5	34 50
80,970	Orion	Halifax	24	Edward B. Pelrine	Larry's River	5	36 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

GUYSBORO' COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
75,892	Peter Mitchell	Pt. Hawkesbury	26	Wm. Power	Pirate Harbour	5	39 00
36,136	Queen of the East	Guysboro'	25	Stephen Sweet	Isaac's Harbour	4	37 50
74,129	Telephone	Port Medway	70	Wm. McConnell	Port Hillford	6*	97 50

HALIFAX COUNTY.

57,727	Agnes	Halifax	21	John Hayes	Herring Cove	4	31 50
75,848	Annie Gaetz	do	36	John Weston	East Jeddore	9*	51 30
73,969	Bertha E	do	21	Charles Fader, sen	Head St. Margaret's Bay	4	30 50
94,680	Bonnie Glen	do	17	Thomas O'Neil	Halifax	5	25 50
90,496	Black Prince	do	18	James W. Slaunwhite	Terence Bay	4	27 00
94,662	Bessie Florence	do	12	Charles Twohig	Sambro	3	18 00
90,721	Brilliant Star	do	36	P. & J. Hartlin	East Jeddore	10	54 00
37,619	British Queen	do	20	Robt. Hubley	Spry Bay	6	30 00
96,799	Catherine A. C	do	17	Hezekiah Cleveland	Indian Harbour	3	25 50
61,629	Carrie R	do	17	James Leary	Halifax	3*	20 40
64,872	Catherine	do	20	Wm. Prosser	do	4*	27 00
92,566	Carrie M	do	13	W. H. Munroe	Sheet Harbour	2	19 50
74,071	Condor	do	20	John Julyan *et al*	W. Chezzetcook	3*	26 25
85,655	Daisy	do	16	Wm. Jollimore, Hibbert Richardson	Indian Harbour	5	24 00
85,663	Daring	do	18	Chas. Slaunwhite, sr	Terence Bay	3	27 00
83,320	Dessie M	Port Medway	98	James T. Thompson	Halifax	14*	112 50
61,544	Emma Jane	Halifax	21	Simon P. Slaunwhite	Terence Bay	3	31 50
90,481	Ella D	do	32	Arch. Darrah	Herring Cove	6	48 00
85,738	Emma F	Lunenburg	13	Artemas Zinck	West Dover	2	19 50
74,091	Eastern Clipper	Halifax	35	Jno. H. Fader	Head of St. Margaret's Bay	4	52 50
92,564	Evangeline	do	23	Daniel Baker	West Jeddore	5*	29 58
80,832	Ella May	Lunenburg	16	Amos Murphy	French Village	2*	20 00
96,785	Eva M. B	Halifax	45	Daniel Bonang *et al*	W. Chezzetcook	7*	49 50
90,726	Ellen Maud	do	16	C. W. Schnare	Sambro	3*	21 00
85,552	Edith A	Yarmouth	81	James Fraser	Halifax	16	120 00
85,644	Flora	Halifax	42	Patrick Scallion	Herring Cove	8	63 00
83,180	Friend	do	17	James H. Scott	East Dover	3	25 50
88,227	Fleetwing	do	32	Thos. Lapierre, jr., *et al*	W. Chezzetcook	11	48 00
88,357	Floresta	Lunenburg	57	Jacob Nieforth *et al*	Seaforth	5*	58 05
94,963	Golden Seal	Halifax	32	Chas. W. Hart	Sambro	6	48 00
90,489	Green Leaf	do	44	Martin Julien	Three Fathom Harbour	12	66 00
88,220	Grandee	do	14	John Martin	Sambro	2	21 00
37,488	Gipsy Lass	do	26	Jno. P. Slaunwhite	Terence Bay	5	39 00
77,786	Hesperus	do	17	Joseph Reyno, sr	Herring Cove	5	25 50
69,097	Highland Jane	do	32	Geo. Hartlin	Jeddore	10	48 00
83,134	Infant	do	15	John Reyno	Herring Cove	3	22 50
83,306	Iona	do	26	Andrew Sullivan	do	4	39 00
54,132	John Franklin	do	18	E. V. Dempsey	do	3	27 00
74,080	J. A. Kirk	do	16	Geo. Boutillier	Mushaboon	5	24 00
69,105	Lady of the Lake	do	20	Richard Christian	Upper Prospect	4	30 00
74,099	Leading Breeze	do	15	D. F. & Geo. Covey	Hackett's Cove	3	22 50
83,402	Louisa Maud	do	21	Wesley Crooks	Peggy's Cove	3	31 50
75,605	Little Annie	Digby	27	Mathew Lynch	Ferguson's Cove	6	40 50
96,797	Laura Phœbe	Halifax	18	John Kent	Musquodoboit Harbour	3*	21 60
96,790	Lilly C	do	12	John Selig	Shag Bay	3	18 00
94,665	Louis Luby	do	41	Wm. Lapierre *et al*	W. Chezzetcook	6*	43 95
96,789	Lydia A. Mason	do	39	Peter Mason	Tangier	9	58 50

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

HALIFAX COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
85,664	Mary E	Halifax	14	Andrew Twohig	Sambro	3	21 00
96,805	Maggie May	do	62	Jeremiah Fillis *et al.*	W. Chezzetcook	5*	60 20
85,385	Minnie M	do	27	J.D. Gaetz & Wm Nieforth	Seaforth	9	40 50
46,498	Mariner	do	56	W. C. & James Henley	Spry Bay	8	84 00
92,572	Mattie B	do	33	W. C. Henley	do	*	24 75
94,667	Nettie, M. G	do	32	Simon Hubley&Charles Garrison	Indian Harbour	10	48 00
83,107	North Star	do	26	Thos B. Nieforth	Three Fathom Harbour	8	39 00
80,841	Nina	do	13	Wm Murphy	Owl's Head	4	19 50
64,018	Ocean Bride	do	23	Joseph H. Doyle	West Jeddore	6	34 50
88,215	Peep-o-day	do	12	Thomas Lynch	East Dover	3*	14 40
92,571	Primrose	do	14	Alex. Slaunwhite	Terence Bay	3	21 00
53,551	Roving Bird	do	24	John Brown	Herring Cove	4	36 00
88,223	River Bell	do	11	Jno. D. Christan	Upper Prospect.	3	16 50
77,787	Rescue	do	20	Henry Fader	Head of St. Margaret's Bay	3	30 00
75,575	Rising Dawn	Lunenburg	18	Nora Hurley	Upper Prospect.	4	27 00
96,806	Rising Sun	Halifax	28	Geo. Julien	Three Fathom Harbour	5*	34 14
92,575	Robinetta	do	14	Michael Sullivan	Herring Cove	3	21 00
59,462	Rival	do	20	Henry Faulkner	Lakeville	6	30 00
77,729	Royal Charlie	do	31	J. E. Jennox *et al*	East Jeddore	11	46 50
64,869	Sarah L. Oxner	do	34	Edward Hayes	Herring Cove	8	51 00
96,792	Success	do	21	Geo. J. Longard	Upper Prospect.	4	31 50
96,804	Sadie	do	17	James Young	Sambro	3	25 50
97,042	Sea Bird	do	17	Louis Murphy	Ship Harbour	5	25 50
53,600	Starlight	do	29	T. H. Cooper & H. Jennox	East Jeddore	4*	32 62
74,087	Sea Gem	do	30	Wm. Jennox	do	8	45 00
94,675	Success	do	16	Robt. J. Leslie	Spry Bay	5	24 00
37,519	Safeguide	do	36	W. Chas. Henley	do	7	54 00
90,482	Two-Forty	do	18	Geo. H. Slaunwhite	Terence Bay	3	27 00
100,154	Triton	Lunenburg	60	Jno. W. Wentzel	Dartmouth	15	90 00
90,494	Two Brothers	Halifax	21	J. Ferguson & E. Roast	E. Chezzetcook	6*	29 25
90,490	T. W. Wolf	do	31	Henry Lapierre *et al*	West do	3*	31 02
75,833	Twilight	do	14	Eli Baker	Jeddore	6	21 00
77,836	T. W. Smith	do	35	Charles Beaver	Spry Bay	7	52 50
90,485	Violet West	do	36	John Ferguson	Chezzetcook	11	54 00
92,569	Walter	do	15	Thomas Brophy	Lower Prospect.	3	22 50
92,578	Willetta	do	12	Joseph Gray	Sambro	3	18 00
88,222	Wave	do	15	Arch. Jollimore	Terence Bay	3	22 50
61,904	Water Lily	do	14	Isaac Morash	West Dover	2	21 00
75,578	Wily	Lunenburg	13	James Morash	do	3	19 50
83,042	Western Belle	Halifax	23	John Thomas	Herring Cove	7	34 50
90,723	Winnie L	do	31	J. J. Gaetz *et al.*	Seaforth	10	46 50
88,228	Welcome	do	33	Edwd. J. Nieforth	do	10	49 50
85,378	Zephyr	do	16	Robt. Slaunwhite	Terence Bay	3	24 00

INVERNESS COUNTY.

71,302	Alice	Charlottetown, P.E.I.	10	Lazare Lelièvre	Eastern Harbo'r, Cheticamp	5*	13 75
90,739	Arizona	Pt. Hawkesbury	49	W. H. & F.L.M. Paint	Pt. Hawkesbury	7	73 50
75,783	Crescent	Arichat	27	Camille White	Eastern Harbo'r, Cheticamp	7*	37 97
38,468	Hector	do	35	James C. Skinner	Port Hastings	4*	43 76

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

INVERNESS COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
96,763	Lelia Linwood	Pt. Hawkesbury	67	W. H. & F. L. M. Paint	Pt. Hawkesbury	12	100 50
69,125	Mary Flower	Halifax	11	Hyacinthe Chiasson	Eastern Harbo'r, Cheticamp.	6	16 50
85,652	Our Hope	do	36	Médéric Aucoin	do do	9	54 00
96,761	Quick	Pt. Hawkesbury	13	Dennis Burns	do do	5*	17 88
73,119	Royal	Halifax	12	Angus McFarlane	Port Hastings	3	18 00
74,335	Safe	Yarmouth	35	David Doucet	Cheticamp.	10	52 50
66,844	Sissie Lake	Halifax	27	Alex. J. McDonald	Port Hood	3*	35 44
64,718	Temperance	Port Hawkesb'y.	26	Jno. McFarlane	Margaree Hbr	4*	35 10

KING'S COUNTY.

88,396	Brant	Windsor	11	William Coffill	Medford	3	16 50
75,614	Fawn	Digby	17	H. E. Ogilvie	Kingsport	3	25 50
85,442	Mystery	Windsor	14	E. A. Munroe	Hall's Harbour	3	21 00
92,486	Notilus	do	11	Edward L. Morris	Advocate Hbr	3	16 50
75,453	Susan	do	19	Carr Bolsar	Medford	5	28 50
85,629	Unexpected	Parrsboro'	15	Fred. Parker	Hall's Harbour	2	22 50
85,508	Zelena	St. John, N.B.	14	James E. Ogilvie	Kingsport	2	21 00

LUNENBURG COUNTY.

94,783	Alaska	Lunenburg	87	Benj. Anderson, M.O.	Lunenburg	14	120 00
94,965	Alice B	do	66	Adnah Burns	Summerside	13	99 00
90,870	Arietis	do	86	Charles Hewitt	Lunenburg	14	120 00
90,600	Acadia	do	79	David Smith	do	12	118 50
94,778	Argosy	do	84	Chas. Smith, M.O.	do	14	120 00
83,176	Amazon	do	73	Wm. Whitney	do	12	109 50
90,852	Athlete	do	78	John B. Young, M.O.	do	12*	108 66
94,961	Altona	do	67	Emmanuel Zellars	Feltz South	13	100 50
96,831	Argo	do	42	Leander Oxner, M.O.	La Have	10	63 00
100,160	Amelia Corkum	do	99	Chas. Rafuse	W. LaHave Fer'y	12	120 00
90,866	Alice	do	12	Solomon Richard, M.O.	La Have	3	18 00
94,790	Abana	do	85	James Romkey, M.O.	do	14	120 00
92,637	Bertie C. H.	do	87	Wm. Gilfoy, M.O.	Lunenburg	44	120 00
96,823	Burnham H	do	87	Benj. Morash	do	14	120 00
74,782	Bona Fides	do	90	J. Joseph Rudolf	do	14	120 00
96,828	Bonanza	do	87	Chas. Silver, M.O	do	14	120 00
94,647	Bonus	do	86	Geo. Kreser, M.O.	La Have	13	120 00
85,730	Beulah	do	103	J. Daniel Lohnes, M.O.	do	14	120 00
94,651	Bessie A	do	99	M. McGregor, M.O.	Ritcey's Cove	15	120 00
100,163	Beauty	do	65	J. N. Rafuse, M.O.	La Have	10	97 50
90,869	Clara E. Masou	do	83	David Smith, M.O.	Lunenburg	14	120 00
94,646	Carrie C. W	do	92	Martin Westhaver	Martin's Brook	14	120 00
92,622	Coronet	do	115	Arthur H. Zwicker	Lunenburg	14	120 00
94,643	Carrie M. C	do	39	Norman Chandler	Tancook	9	58 50
74,131	City Queen	do	53	John Bruhm	Mahone Bay	10	79 50
94,658	C. A. Ernst	do	57	Abraham Ernst	do	11	85 50
94,645	C. A. Chisholm	do	82	do	do	12	120 00
85,642	Charlotte E. C	do	80	C. U. Mader, M.O.	do	12	120 00
94,653	C. U. Mader	do	88	do	do	14	120 00
97,084	Calla Lilly	do	62	Edmund Hirtle, M.O.	La Have	12	93 00
90,857	Capio	do	72	Albert McKean	do	12	88 00
96,825	Cecelia W	do	41	Robert Walfield, M.O.	do	9	61 50
97,081	Carrie	do	99	Albert McKean	do	11*	107 16
90,824	Ceto	do	95	Simon Parks, M.O.	do	12	120 00
88,348	Cymbeline	do	103	J. N. Rafuse	Conquerall Bank	15	120 00
94,652	Cashier	do	106	W. N. Reinhart, M.O.	La Have	16	120 00
90,856	Cleta	do	90	do M.O.	do	11*	107 16
97,089	Dictator	do	87	S. Watson Oxner	Lunenburg	14	120 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

LUNENBURG COUNTY—*Continued.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner of Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
96,826	Director	Lunenburg	87	David Smith, M. O.	Lunenburg	14	120 00
88,358	Dolphin	do	92	Howard Wynacht	do	14	120 00
85,736	Dominion	do	96	Wm. Young	do	14	120 00
42,505	Delight	do	49	Abraham Ernst	Mahone Bay	7*	68 91
88,355	D. A. Mader	do	85	C. U. Mader, M. O.	do	10*	110 00
97,085	D. Cronan	do	59	Lewis Strum	do	12	88 50
83,308	Ella	Liverpool	10	Hugh Stanford	Chester	2	15 00
85,731	Eva L. H.	Lunenburg	62	Jacob Hilz	Indian Point	10	93 00
88,356	Energy	do	97	C. U. Mader, M.O.	Mahone Bay	12	120 00
90,584	Eldora	do	75	Alvin Creaser, M.O.	La Have	12	112 50
94,659	Enterprise	do	86	Robert Dawson, M.O.	Bridgewater	13	120 00
75,569	Empress	do	47	Simon Pentz	La Have	11	70 50
96,821	Edgar T. Richard	do	55	Elias Richard, Sr.	do	11	82 50
94,960	Eureka	do	99	Reuben Smith, M.O.	do	15	120 00
94,650	Elsie	do	47	Jno. Schmeisser, M.O.	do	11	70 50
100,151	Erminie	do	91	Wm. Young	Lunenburg	14	120 00
94,771	Florence M. Smith	do	98	Benj. Anderson, M.O.	do	14	120 00
80,829	Florence B.	do	32	J. W. Pearl	Martin's Brook	4*	40 00
92,638	Florence M.	do	83	Alex. Silver	Lunenburg	12	120 00
66,749	Flash	Halifax	24	Henry Publicover	Blandford	5*	29 25
94,957	Feronia	Lunenburg	77	John H. Kaulback	Mahone Bay	12	115 50
94,656	Florin	do	58	Robert Dawson	Bridgewater	12	87 00
97,046	Fredona	Liverpool	12	James W. Remby	West Dublin	3	18 00
96,836	Gleaner	Lunenburg	86	Wm. C. Acker	Lunenburg	14	120 00
94,773	Galatea	do	98	Jno. B. Young, M.O.	do	14	120 00
90,582	G. A. Smith	do	95	Wm. Young, M.O.	do	14	120 00
97,088	Glendale	do	38	Charles Bell, M.O.	La Have	9	57 00
97,083	Garland	do	51	J. D. Sperry, M.O.	Petit River	8	76 50
100,156	Hustler	do	44	L. B. Currie, M.O.	West Dublin	8	66 00
100,158	H. N. Gardner	do	48	H. N. Gardner	Bridgewater	12	72 00
90,859	Hector W. McG.	do	99	M. MacGregor	Ritcey's Cove	12*	115 39
96,837	Irvin G.	do	80	Henry Gerhardt	Lunenburg	13	120 00
90,585	Iris	do	92	David Smith, M.O.	do	14	120 00
92,639	Jennie Miller	do	83	Henry Adams, M.O.	do	12	120 00
85,723	Jessie A. Loye	do	99	James A. Hirtle	do	14	120 00
84,785	J. C. Schwartz	do	89	Charles Hewitt, M.O.	do	14	120 00
94,654	J. W. Geldert	do	87	S. Watson Oxner, M.O.	do	14	120 00
96,830	J. H. Silver	do	91	Chs. L. Silver, M.O.	do	14	120 00
74,019	Jewel	do	52	Leonard Young	do	7*	69 34
94,970	Joseph O	do	53	Thomas Oakley	La Have	11	79 50
94,789	Joseph McGill	do	99	David Ritcey, M.O.	Ritcey's Cove	14	120 00
83,485	John M. Inglis	Liverpool	79	John S. Wolfe, M.O.	La Have	15	118 50
100,164	J. H. Ernst	Lunenburg	97	S. Watson Oxner	Lunenburg	14	120 00
96,833	L. E. Young	do	89	Benjamin Anderson	do	14	120 00
96,838	La France	do	89	S. Watson Oxner, M.O.	do	14	120 00
94,780	Laurence	do	87	Abram Smith, M.O.	do	14	120 00
96,832	Laura M. Knock	do	87	David Smith, M.O.	do	12*	111 44
94,788	Laura C. Zwicker	do	85	Abraham Ernst	Mahone Bay	12	120 00
96,827	Leopold	do	93	Charles Smith, M.O.	Lunenburg	14	120 00
97,092	Lurline	do	57	Amiel Corkum, M.O.	La Have	12	85 50
92,640	Minerva	do	83	Wm. C. Acker	Lunenburg	12	120 00
94,772	Molega	do	99	Benj. Anderson, M.O.	do	14	120 00
94,775	Malabar	do	98	R. H. Griffiths	do	9*	98 60
94,777	Maurice C. Geldert	do	99	Geo. Geldert	do	14	120 00
92,633	Magnolia	do	83	Joshua Heckman, M.O.	do	12	120 00
94,951	Maggie McNeil	do	75	Frank L. McNeil	do	11	112 50
74,319	Merino	do	46	J. Joseph Rudolf	do	9	69 00
92,635	M. B. Smith	do	85	Wm. C. Smith, M.O.	do	14	120 00
97,100	Maggie M. W.	do	89	J. H. Wilson	do	14	120 00
92,632	Monarch	do	83	do	do	14	120 00
90,586	Morris Wilson	do	98	Henry Wilson, M.O.	do	†	60 00

† Crew lost, payment held.

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

LUNENBURG COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
100,153	Milo	Lunenburg	99	Wm. Young	Lunenburg	14	120 00
69,213	May Fly	do	12	Jacob Richard	La Have	3*	15 75
100,162	Magic	do	45	J. D. Sperry, M.O	Petit River	8	67 05
96,840	Mayflower	do	60	Robert Dawson	La Have	10	90 00
88,342	Nova Zembla	do	85	F. Anderson, M.O	Lunenburg	12	120 00
94,966	Nicanor	do	79	David Westhaver	Martin's Brook	12*	103 70
92,636	Nonpareil	do	88	John Zink	Lunenburg	13	120 00
88,603	Nokomis	do	94	C. U. Mader, M.O	Mahone Bay	14	120 00
94,655	Nevada	do	46	James Bell, M.O	La Have	9	69 00
94,786	Ontario	do	89	Joshua Hirtle	Lunenburg	14	120 00
85,562	Oresa	do	13	Arthur Mason	do	4	19 50
97,779	O. P. Silver	do	89	Chas. Silver	do	14	120 00
100,157	Orinoca	do	56	Isaac Westhaver	Martin's Brook	10	84 00
75,570	Olive Branch	do	14	John Church	Aspotagan	3	21 00
88,346	Olive	do	103	Daniel Getson, M.O	La Have	13	120 00
90,587	Ornatus	do	90	Albert McKean	do	11	120 00
94,641	Ovando	do	88	Jeffrey Publicover, M.O	do	15	120 00
85,331	Parisian	do	107	Allan R. Morash, M.O.	Lunenburg	12*	111 44
94,774	Puritan	do	94	James Kreser, M.O	La Have	14	120 00
96,834	Robert F. Mason	do	87	Martin Mason, M.O	Lunenburg	14	120 00
97,087	Robert C. Bruhm	do	61	Abraham Ernest	Mahone Bay	11	91 50
92,329	Rialto	Liverpool	46	L. B. Currie, M.O	West Dublin	7	69 00
90,593	Ralph	Lunenburg	51	Solomon Smith, M.O.	La Have	11	76 50
94,787	Samoa	do	89	Freeman Geldert	Lunenburg	14	120 00
90,868	Sadie	do	79	Chs. Smith, M.O	do	14	118 50
74,096	Silver Stream	Halifax	35	Chas. E. Nass	Chester	7	52 50
88,349	Senovar	Lunenburg	89	Nathan Hiltz	Martin's River	14	120 00
94,962	Stella E	do	100	Reuben Ritcey, M.O.	La Have	13	120 00
94,657	T. W. Langille	do	71	Francis Conrad, M.O.	South	14	106 50
92,623	Torridon	do	105	Ant. Heckman, M.O.	La Have	14	120 00
97,099	Union	do	78	Wm. Smeltzer, M.O.	Lunenburg	12*	108 66
97,098	Urania	do	100	David Heisler, M.O.	do	14	120 00
85,334	Valorus	do	57	Benjm Lohnes	do	12	85 50
90,597	Vivian	do	97	Arthur H. Zwicker	do	14	120 00
85,735	Victory	do	97	do	do	14	120 00
94,649	Valenar	do	84	Nathan Hiltz	Martin's River	12	120 00
83,164	Valiant	do	88	Thos. A. Cook, M.O.	La Have	14	120 00
97,086	Vera G	do	54	James Getson, M.O	do	11	81 00
85,635	Vanilla	do	102	John M. Ritcey, M.O.	do	15	120 00
96,829	Westeria	do	96	F. Anderson, M.O	Lunenburg	14	120 00
100,152	Werra	do	85	David Smith	do	14*	116 00
94,967	White Cloud	do	98	C. U. Mader, M.O	Mahone Bay	13*	115 72
94,953	W. D. Richard	do	98	W. Norman Reinhardt, M.O	La Have	13	120 00
94,642	Winnie C	do	55	Edmen Walters, M.O.	do	12	82 50
71,368	Zelu	do	21	Gabriel Smeltzer, M.O.	Lunenburg	6	31 50

QUEEN'S COUNTY.

97,048	Annie & Lizzie	Liverpool	39	A. W. Hendry, M.O	Liverpool	9	58 50
69,054	Carrie Golden	Halifax	19	Jason Payzant	Port Mouton	3	28 50
75,571	Fanny	Liverpool	16	Frank Mouser	Brooklyn	6	24 00
100,161	Hilda Maud	Lunenburg	37	Adam Selig	Vogler's Cove	10*	52 98
90,825	Henry N. Batchelder	Port Medway	99	S. E. Teel	do	16*	116 48
83,316	Lottie	do	81	do	do	14	120 00
92,330	Mary E. Leslie	Liverpool	99	A. W. Hendry	Liverpool	15*	116 25
69,187	Queen of the Fleet	Lunenburg	46	John Hutt	Port Medway	10	69 00
83,314	Spartan	Port Medway	98	L. B. Cohoon	do	14	120 00
97,041	W. H. Smith	Liverpool	43	Herbert Smith	Brooklyn	10	64 75

DETAILED STATEMENT of Fishing Bounties paid to **Vessels**, &c.—Nova Scotia—*Con.*

RICHMOND COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
83,086	Ada M..	P't Hawkesbury	20	Wm. Burke..	River Bourgeois.	4*	27 00
77,544	Alpha	Arichat	42	Wm. Le Vesconte	D'Escousse	10	63 00
38,501	B. Weir & Co.	do	24	Celestin Curodeau	River Bourgeois.	7	36 00
77,851	Buxom	Sydney	11	Daniel McGrath	L'Ardoise	3	16 50
35,996	Blue Bell	Arichat	25	D. Gruchy & Son	D'Escousse	8	37 50
75,561	Boreas	Louisburg	41	John Colford	Port Richmond..	5	61 50
72,061	C. P. M.	Arichat	22	Désiré Burk	River Bourgeois.	6	33 00
74,100	Candid..	do	23	do	do	8	34 50
43,109	Chatham Head	Chatham, N.B..	24	Dom. Fougère	Poulamond	6*	31 50
88,459	Caroline	Arichat	12	Wm. Babin	Arichat	3	18 00
72,052	Day Spring..	do	52	Charles Leblanc	Port Royal	3*	58 50
92,597	Dread not	Sydney	10	F. Manbourquette	Rockdale	3*	12 00
72,058	Daisy	Arichat	34	Patrick Richard	Arichat	3	51 00
75,616	Eliza Jane	Shelburne	22	Alex. Vigneau	do	2	33 00
38,477	Elizabeth	Arichat	18	Placide Burk	River Bourgeois.	6	27 00
69,190	Emma	do	47	A. J. Boyd	do	10	70 50
83,395	Elerie	Halifax	29	Docité Fougère	do	6*	40 40
61,617	Eva May	Guysboro'	29	Daniel Sampson	do	8	43 50
77,843	Elizabeth	Halifax	30	Isidore Sampson	do	6	45 00
83,033	Emma Proctor	P't Hawkesbury.	41	James Proctor	W. Side River Inhabitans	9	61 50
61,606	Edmund Russell	Arichat	28	Joseph Walker	Riv. Inhabitants	3	42 00
77,822	Eliza Smith..	do	44	Patience Poirier	Lo'er D'Escousse	10	66 00
83,399	Fannie R. C.	Halifax	22	Peter Boudrot	River Bourgeois.	7	33 00
74,116	Fama..	do	44	W. Le Vesconte	D'Escousse	10	66 00
83,088	Good Intent..	P't Hawkesbury	21	Jno. Walker	Riv. Inhabitants	2	33 00
88,599	Guide	Halifax	38	Joseph Poirier	Lo'er D'Escousse	10*	54 41
38,326	Harriet	Arichat	26	Arthur Leblanc	Arichat	2	39 00
53,577	Ida	P't Hawkesbury	27	Alfred Bartol	Port-Richmond..	4	40 50
96,764	Ida C. Spoffard	do	54	Robt. Murray	do	4	81 00
83,091	Jennie	do	11	P. C. Bosdet	West Arichat	2	16 50
38,486	Julia	Arichat	20	Louis Burk	River Bourgeois.	6	30 00
83,135	J. B. M.	Halifax	20	Abraham Fougère	River Bourgeois.	6	30 00
80,972	John Vincent	Sydney	17	David Sampson	do	6	25 50
88,454	Jubilee	Arichat	34	D. Gruchy & Son	D'Escousse	9	51 00
85,560	Jacques	Yarmouth	58	Fredk. Poirier	do	13	87 00
72,071	Lumen Diei	Arichat	20	Urbain Sampson	River Bourgeois.	6	30 00
72,070	Lennox	do	46	D. Gruchy & Son	D'Escousse	10*	65 87
75,875	Lida & Lizzie	do	56	Wm. LeVesconte	do	11*	80 50
88,455	Laura Victoria	do	39	John Mauger	Cap La Ronde	10	58 50
38,516	Lady of the Lake	do	26	Peter Landry	French Cove	7*	36 57
83,100	Morning Star	Pt. Hawkesbury.	13	Abraham Gerroir	Port Royal	2	19 50
72,063	May Flower	Arichat	12	John Burk	River Bourgeois.	4*	16 20
38,522	Mary	do	23	Isaiah Boudrot	do	6	34 50
88,431	May Flower	Halifax	21	Stephen Dugas	do	6	31 50
69,969	Morning Light	Pt. Hawkesbury.	39	David Walker	River Inhabitant	4	58 50
38,417	Messenger	Arichat	30	Remi Fougère	Poulamond	10	45 00
46,082	Mary	Pt. Hawkesbury.	43	D. Gruchy & Son	D'Escousse	10	64 50
72,048	Neptune	Arichat	26	Henry Sampson	River Bourgeois.	7	39 00
74,365	Nova Stella	do	53	Leon N. Poirier	Low. D'Escousse	13	79 50
54,139	Ocean Belle	Halifax	20	A. J. Boyd	River Bourgeois.	6	30 00
61,630	Olive J.	do	57	Jno. J. Malcolm	Port Malcolm	8	85 50
72,067	Philomen D.	Arichat	22	Tranquil Digout	River Bourgeois.	5*	30 25
74,332	Proditor	Halifax	54	Alfred Poirier	Low. D'Escousse	13	81 00
69,959	Quickstep	Pt. Hawkesbury.	35	Lewis Murray	Port Malcolm	4	52 50
88,439	Ripple	Halifax	20	Isidore Boudrot	Petit de Grat	4	30 00
64,033	Ripple	Pt. Hawkesbury.	34	Geo. A. Cruickshank	Port Richmond	4	51 00
75,763	Ripple	Arichat	17	Daniel McDonald	Basin	2	25 50
72,059	Richmond Queen	Halifax	37	Anselme Fougère	Poulamond	10	55 50
88,452	R. Ferguson	Arichat	24	Maurice Burk	French Cove	7	36 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

RICHMOND COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
51,781	S. E. Cove	Arichat	54	Peter Campbell	Arichat	14	81 00
85,645	Sissie Belle	Halifax	40	A. & P. Pâté	River Bourgeois.	9*	57 00
83,093	Swallow	Pt. Hawkesbury.	12	Jos. A. Walker	River Inhabitant	2	18 00
37,612	Sea Slipper	Lunenburg	41	Chas. Mauger	Cap La Ronde	10	61 50
38,480	Two Brothers	Arichat	32	Simon Landry	River Bourgeois.	8*	45 34
92,599	Thistle	Sydney	11	Simon Manbourquette.	L'Ardoise	3*	13 20
61,990	Union	Halifax	20	Felix Burk	River Bourgeois.	6	30 00
71,034	Vanguard	Barrington	47	Dominique Boudrot	Petit de Grat	10	70 50
57,662	Village Bride	Halifax	24	Peter Malcolm	Port Malcolm	5	36 00
38,523	Victoria	Arichat	24	H. & P. Burke	French Cove	6	36 00
61,921	W. E. Weir	do	41	Chas. Fougère	Low. D'Escousse	9*	58 43

SHELBURNE COUNTY.

94,632	A. C. Greenwood	Shelburne	15	Thos. D. Goodick	Sandy Point	6	22 50
88,552	Afton	do	72	Jonathan Locke	Lockeport	16*	104 83
41,772	Ann Maria	Lunenburg	32	Geo. Redding	do	5*	37 35
90,655	Annina	Yarmouth	12	Solomon Smith	Woods Harbour.	7	18 00
85,490	Billy Browne	Shelburne	88	Adam Firth	Shelburne	15*	116 25
88,551	Blanche M. Thorbourn	do	95	Jno. H. Thorbourn	Jordan Bay	20	120 00
90,434	C. A. Goreham	Barrington	33	Alex. Goreham	Woods Harbour.	6*	37 14
61,905	Champion	Liverpool	15	Jos. W. Hopkins	Barrington	6	22 50
96,970	Charlie Richardson	Shelburne	26	John B. Harding, jr	Rockland	8	39 00
94,942	Coronilla	do	23	Geo. S. Decker, sr	Little Harbour	7*	32 35
75,624	Dwina	do	52	Wm. Lloyd, jr	Brighton	10*	71 50
83,492	Dessie	Liverpool	11	Alex. McIntosh	Lockeport	4	16 50
83,043	Ella A. Downie	Shelburne	73	Enos Churchill	do	14	109 50
88,545	Ella Maud	do	55	Thos. Hayden, jr.	Osborne	12*	76 62
77,603	Eldon C.	Barrington	27	Colin C. Nickerson	Woods Harbour.	8*	38 25
96,963	Enterprise	Shelburne	19	Edward Greenwood	N. E. Harbour.	6	28 50
75,558	Emma B	Barrington	93	Wm. Wickens	Barrington	14*	112 50
90,645	Fly	Yarmouth	16	Robert Nickerson	Woods Harbour.	8	24 00
85,476	Fleetwing	Shelburne	11	Edward Hammond	Jordan Bay	4*	14 85
85,503	G. P. Taylor	St. John, N. B.	14	James L. Purdy	Shag Harbour	3*	16 80
85,478	Glenora	Shelburne	76	Churchill Locke.	Lockeport	12*	102 60
80,831	Glide	Lunenburg	16	Jacob Lloyd	West Head	6	24 00
85,568	Georgie Harold	Barrington	93	Uriah H. Lyons	Barrington	16	120 00
90,436	Genesta	do	22	Isaac A. Nickerson	Shag Harbour	10*	45 82
90,879	Hope	do	22	Hiram Nickerson	Barrington	1*	19 80
90,647	Hattie Emeline	Yarmouth	11	Charles Reynolds	Port La Tour	5	16 50
88,554	Jersey Lilly	Shelburne	96	Enos Churchill	Lockeport	16	120 00
85,566	J. Lyons	Barrington	15	Thos. L. Banks	Barrington	1*	13 13
94,941	John Purney	Shelburne	98	Geo. King	Sandy Point	20*	117 15
77,761	Knight Templar	do	90	Enos. Churchill	Lockeport	14*	112 50
77,957	Kedron	Annapolis	22	Lauchlan McKay	Jordan Falls	8	33 00
73,967	Katie	Liverpool	14	Burns McKenzie	Green Harbour	6	21 00
90,642	Komoroff	Yarmouth	10	Geo. L. Crowell	Port La Tour	4	15 00
54,114	Lone Star	Halifax	29	C. Locke & Co	Lockeport	9	43 50
94,639	Libbie	Shelburne	92	Jno. A. McGowan	Shelburne	17*	113 70
85,488	Mabel Somers.	do	97	Enos. Churchill	Lockeport	14*	112 50
83,256	Marquis of Lorne	Annapolis	27	Churchill Locke.	do	8	40 50
75,550	Martino	Barrington	12	Theodore Nickerson	Shag Harbour	2	18 00
88,583	Mary O'Dell	Yarmouth	14	John Sholes	Bear Point	5*	19 25
88,271	Magellan Cloud	Shelburne	20	Edwd. P. Greenwood	N. E. Harbour.	7	30 00
55,830	Oregon	do	20	Jno. C. McGray	Cape Sable Isl'd.	5*	27 50
90,690	Sandalphon	do	105	C. Locke & Co	Lockeport	18	120 00
85,483	Sarah H. Seaton	do	95	do	do	19*	117 00

DETAILED STATEMENT of Fishing Bounties paid to **Vessels**, &c.—Nova Scotia—*Con.*

SHELBURNE COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
96,962	Surnise	Shelburne	18	Jno. E. Nickerson	Woods Harbour.	8	27 00
85,390	Susan C.	Barrington	21	Peter P. Smith	Cape Sable Isl'd.	6	31 50
96,961	Tivoli	Shelburne	24	Robt. J. Swansburg	Little Harbour	7	36 00
88,542	Three Bells	do	92	Siphorus Thorburn	Jordan River	15*	116 25
85,487	Willie McGowan	do	115	Jno. A. McGowan	Shelburne	21*	114 80
85,541	Willie M.	Yarmouth	24	Herbert Kendrick	Shag Harbour	9	36 00
77,744	Whip-poor-will	Shelburne	15	Jno. P. Littlewood	Black Point	5	22 50
90,430	Will Carleton	Barrington	88	Geo. L. Nickerson	Port La Tour	16	120 00

VICTORIA COUNTY.

72,047	Mary Moulton	Arichat	26	Rodk. D. Kerr	Englishtown	3*	34 13
57,681	Quickstep	Halifax	22	John Rose	McKinnon's Hr.	3	33 00

YARMOUTH COUNTY.

80,647	Annie M. Bell	Yarmouth	64	Raymond Amiro, M.O.	East Pubnico	20	96 00
80,627	Annie D.	do	71	A.C. D'Entremont	Pubnico	19*	103 84
97,034	A. D'E	do	15	Ambroise D'Entremont	West Pubnico	2*	15 01
94,980	Aurore	do	86	Leon D'Eon	do	21	120 00
85,549	Byron	do	97	Byron Hines	East Pubnico	19	120 00
97,028	Bertha	do	10	Jos. H. Eldridge	Yarmouth	2	15 00
94,977	Civilian	do	97	David L. Amiro	West Pubnico	18	120 00
85,536	Circassian	do	98	Jeremiah Gayton	Lower Argyle	16	120 00
80,605	Coral Leaf	do	71	Henry Goodwin	West Pubnico	19	106 50
69,217	Chlorus	do	57	A. F. Stoneman & Co	Yarmouth	15*	82 83
66,679	Diploma	do	83	Louis D'Eon	West Pubnico	11*	107 16
90,883	Donald Cann	do	123	H. B. Cann	Yarmouth	18	120 00
90,871	Dora	do	63	A. F. Stoneman & Co.	do	20	94 50
97,036	Eva	do	10	Gabriel Bourque	Tusket River	5*	12 86
85,551	Ethel	do	117	J. H. Porter & Co	Tusket Wedge	16*	113 34
80,646	Emma S	do	97	George Bates	Yarmouth	18	120 00
94,972	Florence	do	11	Joshua Boudreau	Tusket Wedge	3*	13 20
90,654	Flora	do	64	David D'Entremont	Pubnico	20	96 00
90,885	Georgina	do	90	H. & N. B. Lewis	Yarmouth	16	120 00
85,554	Hazel Glen	do	95	T. J. Perry	Arcadia	16	120 00
80,643	Hazel Dell	do	87	Parker, Eakins & Co.	Yarmouth	16	120 00
80,641	Jonathan	do	68	Chas. T. D'entremont	West Pubnico	19	102 00
88,581	Kingfisher	do	47	A. F. Stoneman & Co.	Yarmouth	14*	64 29
90,888	Laura J.	do	54	Chas. M. Boudreau	Tusket Wedge	15*	78 47
80,614	Louise	do	85	J. H. Porter & Co.	do	18*	116 85
90,887	L'Etoile	do	48	do	do	16	72 00
51,972	Lydia Ryder	do	57	Louis P. D'Entremont	Pubnico	21	85 50
80,624	Lima	do	12	H. & N. B. Lewis.	Yarmouth	3*	14 40
97,035	Martha Ella	do	13	Geo. Hamilton	Central Argyle	6	19 50
80,648	Maria	do	94	Byron Hines	East Pubnico	19	120 00
88,596	M. A. Louis.	do	64	Marc. A. Surette	West Pubnico	20	96 00
85,533	Minnie C	do	12	J. E. Cann	Port Maitland	4	18 00
97,024	Mary Amanda	do	42	Frank Harris, M. O.	Sanford	4*	49 50
74,339	Maitland	do	45	H. & N. B. Lewis	Yarmouth	16	67 50
85,539	Maggie Jane	do	12	Geo. Wyman	Sanford	5*	16 50
97,022	M. & L. Chase	do	46	James M. Davis	Yarmouth	12	69 00
90,892	Nellie	do	59	J. H. Porter & Co	Tusket Wedge	19	88 50
90,659	N. A. Laura.	do	59	Julien D'Entremont	West Pubnico	20	88 50
74,330	Nokomis	do	68	Clarence Rogers	Yarmouth	18*	94 74
97,021	Onward.	do	10	Levi Dobson	Argyle Sound	3*	12 00
80,645	Opal	do	97	Parker, Eakins & Co.	Yarmouth	16	120 00
85,553	Onyx	do	138	do	do	18	120 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—Nova Scotia—*Con.*

YARMOUTH COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
80,628	Roseneath	Yarmouth	92	Byron Hines	East Pubnico	18	120 00
85,535	Sigefroi	do	41	J. H. Porter & Co	Tusket Wedge	13*	59 31
75,724	Sea Foam	do	75	do	do	16	112 50
83,254	Sea Foam	Annapolis	28	Jno. F. Amiro	L. E. Pubnico	2*	27 00
90,648	Stranger	Yarmouth	15	Emilien D'Entremont	West Pubnico	8*	21 25
88,589	Sandford	do	20	Abram Thurston	Sanford	2*	19 30
90,894	Theresa	do	18	Eli Bourque	Eelbrook	3*	19 29
88,597	Uncle Sam	do	97	Geo. D. D'Entremont	Pubnico	21	120 00
90,882	Will-o'the-Wisp	do	51	A. M. D'Entremont	West Pubnico	18	76 50
66,685	Wide Awake	do	77	A. F. Stoneman & Co	Yarmouth	14	115 50
90,896	Wapiti	do	99	do	do	18	120 00
90,897	Wrasse	do	56	do	do	19*	81 90

DETAILED STATEMENT of Fishing Bounties paid to **Vessels**, &c—*Continued.*

PROVINCE OF NEW BRUNSWICK.

CHARLOTTE COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
92,517	Ada	St. Andrews	10	Wm. Philips	Campobello	2	15 00
83,478	Argyle	do	10	Joseph Murphy	Le Tête	3	15 00
88,270	Alice May	St. John	10	D. & J. Wenn	Mace's Bay	3	15 00
88,288	Annie May	St. Andrews	11	Lewis Frankland	White Head	1*	12 38
94,727	Aurelia	St. John	22	James Scovil	North Head	3*	28 88
80,888	B. R. Stevenson	St. Andrews	17	J. T. Ross, M. O.	St. Andrews	3*	18 22
64,011	Bee	do	18	Henry Fletcher	Wilson's Beach	3	27 00
59,375	Cadet	do	19	Ethelbert Savage	Campobello	3	28 50
88,387	Comet	Windsor, N.S.	10	Thos. Carter	Seely's Basin	3	15 00
88,409	Carrie	Digby, N.S.	12	James McLeese	Back Bay	1*	13 50
92,503	Defiance	St. Andrews	17	Frank Calder	Welsh Pool	3	25 50
92,515	Dispute	do	13	Lester V. Kent	Seal Cove	3*	17 07
74,326	Dreadnaught	Yarmouth, N.S.	19	Alfred Stanley, jr	Nort Head	3	28 50
80,882	Ella Mabel	St. Andrews	14	Daniel Calder	Welsh Pool	3	21 00
88,253	E. B. Colwell	St. John	18	S. McKay & E. Wadlin	Beaver Harbour.	3	27 00
80,803	Exenia	Windsor, N.S.	18	Wm. F. Parker	do	3	27 00
88,281	Eastern State	St. Andrews	22	C. McMahon & N. Dick	Le Tête	2*	27 50
92,516	Emma	do	22	Wm. Robt. & James Shaw	Lepreaux	4	33 00
92,505	Edith R	do	47	Fredk. Lord	Deer Island	5*	54 85
88,276	Falcon	do	12	James Brown	Wilson's Beach	3	18 00
59,400	Foam Belle	do	10	T. Bright & T. Elisworth	Seely's Basin	3	15 00
92,511	Fleetwing	do	11	Benj. H. Cassaboom	White Head	2	16 50
94,834	Flora Wooster	do	22	Henry Burnham	North Head	3	33 00
92,508	Grey Eagle	do	13	Nehemiah Mitchell	Welsh Pool	3	19 50
94,835	Georgie Linwood	do	25	N. Hawkins *et al*	Beaver Harbour.	5	37 50
83,463	Havelock	do	33	Wm. James	Wilson's Beach	4	49 50
80,650	Happy Home	Yarmouth, N.S.	14	Michael Nodding	Beaver Harbour.	3	21 00
75,587	Happy Return	Weymouth, N.S.	13	Daniel Campbell	Dipper Harbour.	3	19 50
59,394	Hattie	St. Andrews	10	Chas. Harkins	do	3	15 00
51,738	Ita	St. John	15	R. & S. Jones	Mace's Bay	2*	18 75
77,766	Laconic	Shelburne, N. S.	15	John Welch	Deer Island	3*	19 69
88,407	Linnet	Digby, N.S.	15	Alva Brown	Wilson's Beach	3	22 50
83,472	Lindon	St. Andrews	12	Oliver G. Brown	do	2	18 00
77,965	Lydia B	do	18	Jno. M. Calder	Welsh Pool	3	27 00
88,273	Lillian E	do	13	Andrew McGee	Back Bay	3	19 50
59,342	Lizzie S. McGee	do	14	do	do	3*	15 75
83,465	Look Out	do	48	Frank Wooster	Grand Harbour.	2*	46 30
59,388	Letitia	do	10	H. C. Guptill	Digby, N.S.	3	15 00
59,395	Little Minnie	do	11	Joseph McGee	Back Bay	1*	11 00
77,970	Mary Emeline	do	18	Calvados Brown	Wilson's Beach	3	27 00
92,509	Mary Jane	do	13	Wilfred Calder	Welsh Pool	3	19 50
92,514	Maggie Jane	do	10	Victoria Cook	Back Bay	2	15 00
92,501	Maby	do	11	John Kelly	Letête	2	16 50
88,277	Maggie Jane	St. John	18	F. & G. Campbell	Dipper Harbour.	5	27 00
83,471	May Queen	St. Andrews	31	Thos. Redmond	North Head	3	46 50
94,833	News Boy	do	16	Ernest Lank	Campobello	3	24 00
75,602	Ocean Lily	Digby, N.S.	17	Thos. Mitchell, Sr	Welsh Pool	3	25 50
75,716	Onward	Yarmouth, N.S.	11	John Watt	North Head	2	16 50
92,518	Peril	St. Andrews	18	M. Eldrigde & Geo. Dickson	Beaver Harbour.	3	27 00
75,591	Rise and Go	do	16	Wm. Sirles	Wilson's Beach	3	24 00
75,547	River Rose	Barrington, N.S.	13	E. C. Bowers	Briar Island, Digby Co., N.S	2	19 50
59,357	Silver Bell	St. Andrews	13	Alex. Malloch	Campobello	3	19 50
88,287	Satellite	do	26	M. Eldridge & E. Wadlin	Beaver Harbour.	5	39 00

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—New Brunswick—*Continued.*

CHARLOTTE COUNTY—*Concluded.*

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
88,272	Simoen H. Bell	St. Andrew's	14	Chas. Dixon	North Head	3	21 00
88,414	Trumpet	St. John	20	H. Wright *et al.*	Beaver Harbour.	3	30 00
59,387	Telephone	St. Andrews	19	Joseph McGee	Back Bay	4	28 50
92,504	Tiger	do	15	James Nesbitt	North Head	3	22 50
94,832	Venus	do	42	Simon Brown, Sr	Wilson's Beach	5	63 00
94,726	Violet W	Windsor, N.S.	32	Jno. F. Paul	Beaver Harbour.	3	48 00
88,282	Veritas	St. Andrews	10	Chas. Mathews	Letête	2*	12 50
80,630	Vanity	Yarmouth, N.S.	11	D. & F. Cassidy	Mace's Bay	3*	14 44
77,969	Wave Queen	St. Andrews	11	Wm. McMahon	Letête	2*	13 75
92,512	Water Witch	do	11	Reid Brown	Grand Harbour.	3*	14 44
83,427	Zoulou	Weymouth, N.S.	12	E. Gaskill	North Head	3	18 00

GLOUCESTER COUNTY.

72,099	Adelina	Chatham	12	Aug. Poulin	Lamèque	3	18 00
97,194	Alika	do	12	Lange Poulin	do	2*	15 00
96,739	Argeline	do	14	Octave Gionet	Caraquet	3*	18 38
92,419	Anna	do	12	Docité Chiasson	Lamèque	3	18 00
96,725	Bessie T	do	10	Colin C. Turner	Tracadie	3	15 00
61,409	Belmont	do	13	Angus McLean	Bathurst	2	19 50
61,031	Bee	do	11	Paul Noël	Lamèque	3	16 50
72,779	Betsy	do	13	Sébastien Noël	Little Lamèque	3	19 50
96,430	Christina	do	11	Chas. DeGruchy	Caraquet	3	16 50
92,412	Dollie Dutton	do	13	J. & R. Young	Shippegan	3	19 50
92,417	Evangeline	do	11	do	do	2*	12 38
96,737	Elmina	do	11	Jacques Noël	Lamèque	3	16 50
96,723	Emma	do	15	Ludger Duguay	Shippegan Isl'nd	3	22 50
61,445	Flavie	do	13	Théophile Duguay	Lamèque	3	19 50
61,437	Flying Fish	do	11	Elie Chiasson	Little Lamèque	4	16 50
96,736	Fly	do	14	J. & R. Young	Shippegan	4	21 00
85,699	Four Sisters	do	10	Marcel Caron	Caraquet	3	15 00
92,418	Grip	do	12	James Davidson	Tracadie	3	18 00
96,733	Gem	do	12	J. & R. Young	Shippegan	3	18 00
61,425	Hope	do	13	C. Robin, Collas & Co., [Limited]	Caraquet	2*	16 25
96,724	Isabel	do	11	Pierre Noël	Lamèque	3	16 50
100,294	Jean	do	12	Dominique Gallien	Caraquet	3	18 00
92,413	Mary Jane	do	14	Théodore Savoy	Tracadie	4	21 00
92,403	Maria	do	25	Ubalde Landry	Grande Anse	4	37 50
88,669	Morning Star	do	12	Gustave Gionet	Pokemouche	3	18 00
92,420	Mary Louisa	do	13	Wm. LeBreton	do	3	19 50
61,447	Merida	do	13	André D. Aché	Lamèque	4	19 50
72,100	Marie	do	11	Onésime Chiasson	do	3	16 50
61,442	Marie Cécile	do	15	Olivier Duguay	do	4	22 50
85,692	Mary	do	11	Jos. N. LeBontillier	Caraquet	3	16 50
96,732	Providence	do	11	Jos. L. Robichaud	Shippegan Isl'd.	3*	6 19†
96,740	Providence	do	13	Prospère Albert	Caraquet	3	19 50
96,727	Ryse	do	11	Jérémie Aché	Lamèque	3	16 50
97,191	Rita	do	12	Chas. DeGruchy	Caraquet	3	18 00
61,406	Reward	do	11	Hyacinthe Leboutillier	do	3	16 50
61,438	Rosanne	do	13	Lange Duquay	Little Lamèque	4	19 50
54,355	Silver Belle	Digby, N. S	34	William S. Loggie	Shippegan	6*	44 64
96,731	Sea Star	Chatham	13	Joseph M. Savoy	Shippegan Isl'd.	3	19 50
92,408	Sarah A. W	do	15	R. J. Wilson	Miscou Island	3	22 50
74,401	Sara	do	11	Nazaire Noel	Lamèque	3	16 50
96,738	Three Brothers	do	12	J. & R. Young	Shippegan	3	18 00
72,091	White Wing	do	19	Chas. L. Robichaud	do	4	28 50
96,735	White Fish	do	12	Joseph Savoy	Lamèque	4	18 00

†Owner debarred from participation in bounty.

DETAILED STATEMENT of Fishing Bounties paid to **Vessels**, &c.—New Brunswick—*Continued.*

KENT COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid	Amount of Bounty paid.
							$ cts.
94,791	Autumn Bell	Richibucto	15	Wm. Heskitt, Jr.	Pine Ridge	5	22 50
83,105	Katie Bell	do	11	John Bell	Richibucto	3	16 50
94,793	May English	do	10	Daniel English	Kingston	2*	11 26
35,548	Morning Star	Chatham	30	A. Arseneau	Lower Village	7*	36 84
61,411	Telegraph	Richibucto	20	Frank H. Hawes	Kingston	5	30 00

NORTHUMBERLAND COUNTY.

75,904	Empress	Chatham	26	Robt. R. Call	Newcastle	7	39 00
88,668	General Middleton	do	67	Wm. S. Loggie	Chatham	10	100 50
61,373	Maria	do	28	do	do	5*	36 00
74,368	Maggie Roach	do	44	do	do	8	66 00
75,891	May Queen	do	23	Robt. R. Call	Newcastle	6	34 50
78,044	Princess Louise	do	21	do	do	5	31 50
75,895	Two Brothers	do	26	do	do	5	39 00

ST. JOHN COUNTY.

71,032	Arthur	Yarmouth, N.S.	22	J. L. & D. F. Belding	Chance Hbr	4	33 00
85,972	Dove	St. John	11	Samuel Maguire	Musquash	3	16 50
83,259	Hettie May	Annapolis, N.S.	15	John Butler	do	3	22 50
72,973	Sea Breeze	Digby, N. S.	13	J. J. Graham & D Tolan	South Musquash	5	19 50
59,322	Sea Flower	St. John	11	James Thompson	Chance Hbr.	3	16 50

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c.—*Continued.*

PROVINCE OF PRINCE EDWARD ISLAND.

KING'S COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
69,132	Belle of the Bay. ..	Guysboro', N.S.	20	Mathew Gosbee	Murray Harbour	5	30 00
92,675	Can't help it	Pictou, N.S.....	40	John Herring	do	8	60 00
83,196	Ethel Blanche	do	17	R. Cohoon	do	4	25 50
88,644	Hattie	Charlottetown ..	18	Henny Dicks.	do	4	27 00
90,640	Lorena.....	do ..	11	Wm. Burke	Bay Fortune....	2	16 50
75,882	Lord McDonald. ..	do ..	15	David Cahoon	Murray Harbour	3*	19 69
90,639	Morrell	do ..	16	Edward DeLorey.	Georgetown.....	5	24 00
69,109	Marcella Butler ...	Halifax, N.S...	38	Jno. Hemphill.....	Burnt Point	4*	51 30
83,095	Mary Margaret . ..	Port Hawkesbury, N.S....	17	Jno. Cohoon..... . .	Murray Harbour	4	25 50
92,469	Nutwood.....	Charlottetown ..	99	Jno. McLean.....	Souris....	13*	105 89
88,350	Orion	do ..	78	Aaron Cogswell.	Georgetown....	15	117 00
90,488	Wave.....	do ..	19	James DeLorey.	Brudenell River	4*	25 65

PRINCE COUNTY.

72,081	Annie.....	Chatham, N.B..	13	Jno. McDonald. ...	Campbellton ...	3	19 50
71,310	Black Watch	Charlottetown ..	23	Ben. Perry.	Alberton.	5	34 50
64,867	Daring.	do ..	39	Jno. A. Matheson.....	Campbellton....	2*	43 88
88,642	Express	do ..	46	Jno. Champion.....	Alberton.	13	69 00
80,938	Frank....	do .	21	Wm. A. Miller.....	Tignish..... .	6	31 50
59,663	Lettie.	do ..	57	J. H. Myrick & Co. ..	do	11	85 50
77,619	Melford Guy	do ..	60	James S. Gordon.....	Alberton.	12	90 00
92,455	Mikado.....	do ..	39	Jno. Agnew	do	4*	48 76
83,089	St. Peter.....	Pictou, N.S	15	Edwin Gillis.....	Tignish	3	22 50
83,096	St. Patrick.....	Port Hawkesbury, N.S....	11	Jno. White.....	Alberton.	3	16 50
96,926	Sea Foam.....	Charlottetown ..	15	Wm. G. Ramsay	Malpèque.....	5	22 50

QUEEN'S COUNTY.

92,464	Eliza M.....	Charlottetown ..	18	Wm. Bell	New London....	3*	23 63
92,466	G. H. Gardiner....	do ..	17	Geo. H. Pursey	North Rustico ..	4	25 50
96,936	Katie & Ella	do ..	20	J. Van Buskirk, M.O.	do ..	5*	27 50
71,334	Watchman...	Barrington, N.S.	15	H. M. Churchill.....	Charlottetown ..	5	22 50

DETAILED STATEMENT of Fishing Bounties paid to Vessels, etc.—*Continued.*

PROVINCE OF QUEBEC.

BONAVENTURE COUNTY.

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
80,716	Anna	New Carlisle	10	Wm. Buttle, Sr	New Carlisle	3*	13 13
85,754	Florida	Quebec	26	Hyp. Bourke, M.O	Port Daniel	3	39 00

GASPÉ COUNTY.

73,495	Canadienne	Halifax, N.S.	52	J. N. Arseneau	Grindstone	11	78 00
64,856	Cora May	Magdalen Islan's	42	Jno. N. Arseneau	House Harbour.	8*	56 70
71,357	Emma Gidney	Halifax, N.S.	47	Daniel Cronan	Halifax, N.S.	10	70 50
85,391	Esperance	Magdalen Islan's	30	Jno. P. Savage	Amherst, M.I.	5*	36 57
75,449	Marie Louise	Gaspé	11	Alfred LaCouvée	Gaspé Basin	3*	14 43
94,677	Progress	Halifax, N.S.	14	R. J. Leslie	Amherst, M.I.	5	21 00
92,583	W. J. B.	Gaspé	66	J. Jean *et al*	Percé	9*	94 05

SAGUENAY COUNTY.

74,270	Amarilda	Quebec	24	Louis Pineau	Bic	2	36 00
57,742	Acara	Halifax, N.S.	30	Fred. Jomphe	Esquimaux Pt.	6*	41 79
42,436	Amelia	Gaspé	50	Paul Cormier & Bros.	do	10	75 00
59,909	Elizabeth	Quebec	27	Luke Cormier	do	5	40 50
80,754	Eugénie	do	48	Vigneau et Blais	do	10	72 00
85,459	Florida	do	13	Wm. Michaud	Ile Verte	2	19 50
75,679	Gleaner	do	41	Luke Cormier	Esquimaux Pt.	8	61 50
85,750	H. B.	do	57	J. B. & Hyp. Boudreau	do	8*	80 75
85,753	Java	do	46	Dominique Cormier	do	8	69 00
42,435	Labrador	Gaspé	43	Placide Doyle	do	8	64 50
55,869	Marie Adelmina	Quebec	13	Cyrille Levesque	Notre Dame des Sept Douleurs.	2*	16 25
69,584	Marie Louise	do	23	Pierre Ouellette	Quebec	4	34 50
69,380	Marie Anne	Gaspé	36	Et. Landry & Sons	Esquimaux Pt.	8	54 00
69,382	Marie du Sacré Cœur	do	46	Turbis, Briand & Landry.	do	8	69 00
75,445	Phœnix	do	28	P. Vigneau & Bros.	do	4	42 00
83,360	Ste. Anne	Quebec	13	Pierre Fraser	Notre Dame des Sept Douleurs.	2	19 50
69,591	Ste. Marie	do	37	Alex. Scherrer	Esquimaux Pt.	7	55 50
80,753	Stella Maris	do	51	L. Cummings & Bros	do	9	76 50

DETAILED STATEMENT of Fishing Bounties paid to Vessels, &c—*Continued.*

PROVINCE OF NOVA SCOTIA.

The following Vessel claims for 1889 and 1890, held in abeyance, were paid in 1891.

YARMOUTH COUNTY (1889.)

Official Number.	Name of Vessel.	Port of Registry.	Tonnage.	Name of Owner or Managing Owner.	Residence.	No. of Crew paid.	Amount of Bounty paid.
							$ cts.
75,888	Annie	Yarmouth	22	James M. Davis	Yarmouth	4*	24 76

RICHMOND COUNTY (1890.)

75,763	Ripple	Lunenburg	17	Daniel McDonald	Basin River Inhabitants	3	25 50

APPENDIX No. 3.

REPORT ON THE FISHERIES PROTECTION SERVICE OF CANADA, 1892, BY ACTING COMMANDER WM. WAKEHAM.

OTTAWA, 31st October, 1892.

The Hon. C. H. TUPPER,
Minister of Marine and Fisheries.

SIR,—I beg to report on the work of the Fisheries Protection Service, under my direction, for the past season.

The following vessels formed the fleet:—

Vessel.	Officer commanding.	When commissioned.	When paid off.
Acadia	Lt. O. G. V. Spain, R.N.	June 1	
La Canadienne	Capt. S. Belanger	May 15	
Stanley	do Finlayson	June 15	October 8.
St. Nicholas	do Pratt	January 1	May 26.
Constance	do May	June 13	
Curlew	do Pratt	August 13	
Vigilant	do Knowlton	April 24	
Kingfisher	do Kent	June 1	October 15.

The "Acadia" was employed during the season in the River and Gulf of St. Lawrence and on the Atlantic coast. She also made a trip to the Labrador, with Col. Anderson, Chief Engineer of the Department, to determine the sites of certain proposed new lights. During July and August the "Acadia" cruised for some time between Bic and Anticosti with a view to aid in breaking up the contraband trade which exists between certain of the river ports and French St. Peter's.

"La Canadienne" was as usual employed in the service on the Labrador coasts, and about Anticosti and the Magdalen Islands. During September she was engaged at the wreck of the "Newfield," and in serving the lights in northern Nova Scotia and New Brunswick. In October she replaced the "Stanley" and "Kingfisher" on the Prince Edward Island station, returning about the 1st of November to Quebec to do service for the Marine branch in the river.

The "Stanley" cruised between the coast of Gaspé and the northern and western shores of Prince Edward Island. She also assisted at the wreck of the "Newfield," and was paid off on the 8th of October when the mackerel fishing in the inner Gulf was over.

The "St. Nicholas" which had been commissioned on the 25th of last November, and had spent the winter cruising in the Bay of Fundy, was returned to her owners on the 26th May,—her officers and crew being transferred to the "Curlew."

The "Curlew." This the second of the new cruisers was taken over from her builders at St. John, N.B., and went into commission on the 13th of August, since which date she has been constantly engaged in the Bay of Fundy station.

The "Constance." The first of the new cruisers was put into commission at Quebec on the 13th June, and has since been employed in the River St. Lawrence and upper Gulf, doing revenue work. (For description see page 155.)

The "Vigilant." This schooner went into commission on the 24th April, and almost immediately proceeded to meet the herring fleet at the Magdalen Islands. She was afterwards engaged cruising on the Atlantic coast between Halifax and Sydney.

The "Kingfisher." This schooner built, for the service, as an improvement upon the "Agnes Macdonald" of last season, which she really proved herself to be, was chartered from her builder, Mr. Joseph McGill, of Shelburne, N.S. She was engaged during the summer at the mackerel fishery on the Souris station, and was paid off, and returned to her owner at Halifax on the 15th October.

LICENSES TO FOREIGN FISHING VESSELS.

SCHEDULE of United States Fishing Vessels to which Licenses were issued under the Act entitled "An Act respecting Fishing Vessels of the United States of America," during the year 1892.

Name of Vessel.	Port of Registry.	Tonnage.	Port of Issue.	Fee.
				$ cts.
Mary Story	Gloucester	60	Yarmouth	90 00
Knight Templar	do	69	do	103 50
Monitor	do	104	Pubnico	156 00
Ann and Mary	do	68	Halifax	102 00
Edward Grover	do	73	Liverpool	109 50
Josia M. Calderwood	do	86	Pubnico	129 00
John L. Nickerson	do	118	do	177 00
Parthia	do	105	Yarmouth	157 50
Polar Wave	do	86	Pubnico	129 00
Electa A. Eaton	do	74	do	111 00
Vesta	do	75	do	112 50
Reuben L. Richardson	do	92	Yarmouth	138 00
Howard Holbrook	do	92	do	138 00
Sarah E. Lee	do	98	do	147 00
Henri N. Woods	do	84	Pubnico	126 00
Hattie L. Newman	do	93	do	139 50
Frank A. Rockliff	do	99	do	148 50
Hazel Onetta	do	104	Shelburne	156 00
Mary E. Daniels	do	64	Liverpool	96 00
Jennie Seaverns	do	107	Pubnico	160 50
General Cogswell	do	130	do	195 00
Mabel Kenniston	do	78	do	117 00
Charles Levi Woodbury	do	100	do	150 00
Carrie and Annie	Boston	90	do	135 00
Hiram Lowell	Gloucester	121	Yarmouth	181 50
Nellie Burns	do	64	Liverpool	96 00
Augustus H. Johnson	do	62	do	93 00
Alice R. Lawson	do	115	Pubnico	172 50
Grace L. Fears	do	84	Shelburne	126 00
Abbie F. Morris	do	77	Canso	115 50
Lizzie	do	69	Liverpool	103 50
Amy Hanson	Boston	103	Port Mulgrave	154 50
Robt. J. Edwards	Gloucester	79	Port Hawkesbury	118 50
Saml. V. Colby	do	95	Shelburne	142 50
Gertie E. Foster	do	83	do	124 50
Carrie E. Sayward	do	59	Liverpool	88 50
Elsie M. Smith	do	107	do	160 50
James A. Garfield	do	69	North Sydney	103 50
T. P. Whitman	do	89	Louisburg	133 50
Emma Jane	Portland	40	Campo Bello	60 00
Dido	Gloucester	77	Guysborough	115 50
Edith S. Walen	do	78	Port Hawkesbury	117 00
Madonna	do	110	Pubnico	165 00
Mystic	do	78	Canso	117 00
Spencer F. Baird	do	74	Amherst, M.I	111 00
Oliver Cromwell	Provincetown	60	Port Hawkesbury	90 00
Mystic Tye	Portland	38	Lockeport	57 00
Joseph B. Maguire	Gloucester	88	North Sydney	132 00
Arequipa	Provincetown	68	Port Hawkesbury	102 00
Willie L. Swift	do	95	St. Peters	142 50
Hannah Coomer	Bucksport	90	do	135 00

SCHEDULE of United States Fishing Vessels to which Licenses were issued, &c.—*Con.*

Name of Vessel.	Port of Registry.	Tonnage.	Port of Issue.	Fee.
				$ cts.
Henry Wilson	Gloucester	88	Arichat	132 00
Eben Parsons	do	87	do	130 50
Helen R. Low	do	56	Port Hawkesbury	84 00
Columbia	do	118	Amherst, M.I	177 00
Ella G. King	do	71	do	106 50
Golden Hope	do	101	do	151 50
Thos. F. Bayard	do	96	do	144 00
Orpheus	do	105	Amherst, M. I	157 50
A. E. Whyland	do	123	do	184 50
Louise J. Kenny	do	155	do	232 50
Mist	do	68	do	102 00
J. W. Campbell	do	79	do	118 50
Margart Mather	do	91	do	136 50
Edith M. McInnis	do	80	Canso	120 00
Mascot	do	77	Port Hood	115 50
Abbie M. Deering	do	96	Arichat	144 00
Gardner W. Tarr	do	62	Barrington	93 00
Farragut	do	48	do	72 00
David Sherman	do	67	do	100 50
Mildred V. Lee	do	102	Liverpool	153 00
Emma E. Witherell	Boston	109	Pubnico	163 50
Addie Emma	Gloucester	35	do	52 50
Brunhilda	do	90	Canso	135 00
Zenobia	do	74	do	111 00
Jno. M. Plummer	Portland	95	Lockeport	142 50
Willie A. McKay	Provincetown	161	St. Peter's	241 50
Lizzie J. Greenleaf	Gloucester	88	Canso	132 00
Ralph E. Eaton	do	65	Barrington	97 50
Puritan	do	84	Canso	126 00
Wm. H. Wellington	do	81	do	121 50
Quickstep	do	99	do	148 50
John A. Matheson	Provincetown	146	St. Peter's	219 00
Hattie D. Linnell	Gloucester	89	Canso	133 50
Henry M. Stanley	do	112	do	168 00
Carrie W. Babson	do	85	do	127 50
Maggie E. Wells	do	80	do	120 00
Viking	do	62	Barrington	93 00
Eliza B. Campbell	do	95	Arichat	142 50
Chas. W. Parker	do	54	Pubnico	81 00
Clara F. Friend	do	61	do	91 50
Two Forty	do	39	Alberton, P. E. I	58 50
Annie H. Frye	do	64	Liverpool	96 00
Laura Sayward	do	64	Port Hawkesbury	96 00
Susan L. Hodge	do	78	Arichat	117 00
Gertie Evelyn	do	81	do	121 50
Samuel R. Crane	do	74	Canso	111 00
Epes Tarr	do	66	do	99 00
Annie C. Hall	do	84	do	126 00
Helen F. Fredrick	do	36	Pubnico	54 00
F. R. Walker	do	67	Port Hawkesbury	100 50
Belle Bartlett	Provincetown	72	do	108 00
M. H. Perkins	Gloucester	72	do	108 00
Gracie M. Parker	Provincetown	77	do	115 50
Conductor	Gloucester	69	Shelburne	103 50
Porter S. Roberts	do	72	Arichat	108 00
Mary E. Webb	do	11	Port Mulgrave	16 50
Welcome	do	58	Gaspé	87 00
	Total	8,940	Total	13,410 00

SUMMARY.

Total number of vessels	108
Total tonnage	8,940
Total amount received in fees	$13,410

The above list shows that though the United States fishing vessels enjoyed particular facilities for getting bait at Newfoundland, yet they found it advantageous to take out Canadian licenses to a greater extent than last season.

The schedules of United States fishing vessels calling at Canso, and at Sand Point, will show to some extent the way in which our ports are made use of by these vessels, and were similar returns made by all collectors between the Bay of Fundy and Gaspé, it would be shown that all our sea coast and Gulf ports are more or less frequented by United States fishing vessels, not only for shelter, but as so many bases from which to carry on their fishing.

A great difference of opinion exists among our fishermen and outfitters as to the advantages of the license system There can be no doubt that when bait is scarce, as is so often the case, our own fishermen are handicapped by the competition of all these foreign fishermen. Of course the few who fish traps and weirs for the purpose of supplying bait, are benefited by the increase in the price of the bait, but on the whole I think the feeling of the majority of our most intelligent fishermen is that we really get the worst of the bargain, and that if we kept the bait for our own use a greater number of our own people would be benefited.

See, at the end of this appendix, List of United States vessels called at Canso, and List of United States vessels called at Sand Point, Shelburne.

THE LOBSTER FISHERY.

The close season was fairly well observed over the greater part of the coast, and several canneries were closed down before the end of the open season. The vessels of the fleet in commission during the fishing season all assisted in enforcing the law. This work, as far as Prince Edward Island, or the greater part of the island was concerned, was rendered less difficult by the order which withdrew the size limit, and curtailed the fishing season to the end of June. At a few places, such as Grand Entry Lagoon at the Magdalen Islands, Egmont Bay in Prince Edward Island, and the neighbourhood of Little Harbour and Wedge Island on the Atlantic coast of Nova Scotia, some attempt was made to carry on fishing during the close season, all of these places were visited by the cutters, and in each, all traps found set were destroyed. It is difficult, if not impossible, to discover and punish the actual fishermen, as they are never caught in the act of fishing their traps. The system of licensing the fishery, and compelling all traps and trawl-lines to be marked, or branded, will greatly aid in putting an end to this illegal fishing. There was this season a great increase in the total number of traps fished, as owing to the improvement of the catches of 1890 and 1891, a number of new canneries had been opened, and most of the old canners fished more traps.

MACKEREL FISHERY.

A fleet of about forty United States mackerel seiners came down along the Atlantic coast of Nova Scotia for the spring mackerel fishing in June. These vessels did not enter the Gulf. The following table will give their names, and show the catches they had at the date of boarding :—

Name.	Port.	Catch.	Name.	Port.	Catch.
		Brls.			Brls.
Norumbega	Gloucester	150	M. S. Ayer	Gloucester	100
Herald of Morning	do	53	Roulette	Philadelphia	75
Andrew Burnham	Boston	25	Laura Belle	Portland	125
Emma	Portland	50	Ethel & Addie	do	80
Harvard	Gloucester	63	Sarah E. Babson	Gloucester	120
Robert Pettis	Swans Island	52	Hustler	do	
Lizzie M. Centre	Gloucester	140	Henry Morganthan	Portland	130
Alice C. Jordan	do	118	Lillie B. Fuonald	do	78
Ambrose H. Knight	do		Davy Crockett	Gloucester	25
Maggie Smith	do	40	F. H. Smith	North Haven	150
Iolanthe	do	85	Henrietta Francis	Portland	190
Miantonomah	Swans Island	50	A. H. Gaffney	Gloucester	25
Rush Light	Gloucester	43	Martha C	do	190
S. F. Maker	do	145	Lucille	do	175
Agnes E. Downs	do	150	Ellen Lincoln	Portland	180
Groyling	do	150	Lizzie Maud	do	130
Geo. F. Edmonds	do	120	Herbert M. Rodgers	Gloucester	80
Alice S. Hawkes	do	150	George W. Pierce	Portland	100
Caroline Vaught	do	46	Yosemite	Gloucester	70

The above vessels were boarded at Louisburg, C.B., on the 4th June by Capt. Knowlton, of the "Vigilant."

38 schooners having 3,653 bbls.

Many of these vessels are known to have almost doubled their catch before returning home. They, of course, were all seiners, and the fish they took all unspawned mackerel.

Owing to the good mackerel fishing off the Maine coast during the summer season, the number of United States mackerel fishing vessels fishing in the Gulf was small, the vessels that did come down were all hand-and-liners, and they took the most of their fish either off the East Point of Prince Edward Island or at the Magdalen Islands.

On the 21st of October our boarding returns show that the following United States mackerel seiners were then fishing off Sydney : —

"Norumbega."
"Thetis."
"Agnes Downes."
"Joseph Rowe."
"Martha Cleves."
"F. W. Homans."
"Harvard."
"Harry W. Freeman."
"M. H. Perkins."
"Anna H. Frye."
"Henry G. French."
"Notice."
"W. H. Oakes."
"Augusta Johnston.
"Harry L. Belden."
"Maggie E. McKenzie."
"Ethel B. Jacobs."
"Rapid Transit."
"Ellen Lincoln."
"Hattie M. Graham."
"Yosemite."
"Mystery."

Some of these vessels are among the finest of the American mackerel fleet—the most of them had only been a few days out—they were down to meet the large fat fall mackerel, as these come round Cape St. Lawrence out of the Gulf. These fish were reported abundant, and of splendid quality. The above vessels at the date given averaged about fifty bbls. all taken off the Cape Breton coast.

The law as regards the setting of gill-nets in the day time, whether for mackerel or herring, was fairly well observed in the Gulf, but on the southern coast of Nova Scotia, about St. Margaret's Bay, and that neighbourhood, the practice was still persisted in, and I would advise that next season when the gill-net fishing begins, a cutter be stationed on that part of the coast to keep this illegal fishing down from the start.

But one violation of the law prohibiting the use of the purse-seine, in our domestic waters, was reported; this case is now under investigation. In view of the very decided improvement in the summer mackerel fishing on the Newfoundland coasts, since the prohibition of the purse-seine, it is not too much for us to hope that the same relative improvement may follow in our own waters; but it will require some international arrangement, by which the use of this, on all hands admittedly, distructive engine may be prohibited on the high seas adjacent to our territorial waters, before we can reap the full benefit which would certainly follow the total abolition of the use of the purse-seine.

THE NEW CRUISERS.

The two new cruisers described in last year's report have been launched and commissioned. The "Constance" for service in the River St. Lawrence and Gulf, more particularly for the purpose of putting a stop to the smuggling which has been going on for some time between St. Pierre-Miquelon, and the river parishes; and the "Curlew" for purely fisheries service in the Bay of Fundy. The dimensions and speed of these vessels, which are exactly alike, were described in last year's report.

They have been for some time in actual service, and have proved to be all that we had expected; that is able sea-going boats, of ample speed for their work. The vessels are small and the internal fittings are plain, though neat and substantial. Those who cavil at the finish of these vessels, forget that they were not intended for pleasure yachts, but were built at a small cost for rough weather and hard work, and to be run effectively on an expenditure of not more than $1,000 per month. I beg to append a short article from the *Marine Review* of Cleveland, Ohio, descriptive of these vessels, built by the Polson Iron Works Company Ltd., at Owen Sound, Ont., for the Canadian Government:—

"The 'Constance' and sister ships are far superior to the boats maintained on the lakes by the United States Revenue Department. In case they were ever needed for such purpose they would make very formidable lake commerce destroyers. The entire vessel, hull, engines, boiler and equipment were built by the Polson Company from their own designs.

"The Dominion ss. 'Constance' has the following dimensions: Length over all, 125 feet; length on water line, 114 feet 6 inches; beam, 19 feet 6 inches; depth of hold, 11 feet 3 inches; draft, 9 feet 6 inches. The frame is of steel and extra heavy, with steel plating for the top sides. The bottom is of rock elm from the turn of the bilge to the keel. The frames are reinforced with "Z" bars from the bilge up, so as to bring the steel plating flush with the wood planking. On the main deck, house and engine coamings, etc., are all of steel, as well as the protected turtle deck forward.

"Accommodations for officers and crew are all arranged between decks, in which the spaces are divided by four steel bulkheads. The coal bunkers are of sixty tons capacity and are carried along the sides so as to protect both boiler and engines. The engines are inverted compound condensing, with high pressure cylinder 18 inches bore, low pressure 36 inches, the stroke being 24 inches. It is fitted with steam reversing gear and full equipment of bilge and feed pumps. The condenser is of the surface-condensing type having 650 brass tubes with circulating pump attached, the case of the condenser forming part of the engine frame. The boiler is of the Clyde type, 10 feet 6 inches in diameter by 10 feet in length, and carries a working pressure of 115 pounds of steam. It has two Fox corrugated furnaces 42 inches in diameter. The wheel is 8 feet 4 inches in diameter, with a pitch of 13 feet 3 inches, capable of developing a speed of 16 miles per hour. The 'Constance' has

two pole masts raked well aft with four triangular sails. She is equipped with steam capstan and windlass, Martin patent anchors, bridge reply telegraph, etc. She is armed with three quick firing guns, one mounted on the turtle deck forward and one on each side of the quarter-deck aft.

"The elements of design are: Displacement to 1. W. 1., 254·5 gross tons; area of immersed amidship section 126·5 square feet; tons per inch of immersion at 1. W. 1., 3·6 gross tons; co-efficient of fineness of 1. W. 1., ·73; displacement, ·45; mid-section, ·8; mean co-efficient of fineness of water lines, ·6. The official speed over a measured mile at Owen Sound, was 11·67 knots or 13·44 statute miles per hour. The particulars of elements of design was furnished by Mr. E. Trist, who designed the 'Constance.'

"One feature of the construction of this vessel, is a novelty in our fresh water designs, and is taken from the plans usually followed in the British navy. The ram bow is a formidable weapon, and in the 'Constance' it is constructed with a view to severe service. The stem forging is very heavy and is reinforced with heavy plates and angles, making it almost solid for some 7 or 8 feet back.

"Since building the 'Constance' the Polson Company has built a sister ship named the 'Curlew,' now in service on the Nova Scotia fishing grounds, and are at work on a third of similar design for Georgian Bay service. The 'Constance' is engaged in the international revenue service on the lower St. Lawrence."

FISHERIES INTELLIGENCE BUREAU.

The usefulness of this system is being each year more highly valued, and demands are constantly made to have the number of reporting stations increased. The reports of the movements of the bait are anxiously followed by the masters of banking vessels and the large fishing firms doing business on the north shore, and Labrador, are greatly aided in the management of their business by the daily reports of the condition of the fishing.

The work of the bureau has been carefully performed by Mr. W. M. Hutchins of Halifax, whose report on the movements of the fish forms next appendix.

The whole respectfully submitted.

WM. WAKEHAM,

Acting Commander Fisheries Protection Service.

List of United States Fishing Vessels which visited the Port of Canso, N.S., between 1st January and 17th October, 1892.

Date of Arrivals	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L; if Unlicensed, U.	What in Port for.
1892.						
Jan. 2	Carrie & Annie	Boston	90	7	U	For harbour.
do 25	Addie Winthrop	Gloucester	73	7	U	do for Newfoundland.
do 25	Mystic	do	79	8	U	do do
Mar. 29	A. T. Gifford	do	81	14	U	do
April 11	Masconomee	do	91	18	U	Landed sick man.
do 17	Carrie & Annie	Boston	90	16	L	Ice, &c.
do 17	M. J. Wells	Gloucester	86	15	U	Repairs gaff by permission.
do 20	Dido	do	77	14	L	Harbour.
do 20	Henry Wilson	do	88	16	U	Harbour, sails torn.
do 20	Howard Holbrook	do	92	16	L	do
do 20	H. D. Linnell	do	89	17	U	do
do 25	C. S. Woodbury	do	100	18	L	Ice, bait, &c.
do 29	Abbie Morris	do	77	14	L	Transhipped halibut.
do 29	Zenobia	do	74	14	L	Harbour.
May 2	Volunteer	do	102	18	L	Ice, bait, &c.
do 2	Lizzie	do	68	12	U	Harbour.
do 5	Polar Wave	do	86	16	L	Ice, &c.
do 5	Dora A. Lawsen	do	119	18	U	Harbour.
do 6	Mist	do	68	14	U	do
do 13	Jennie Leveran	do	106	18	L	Ice, bait, &c.
do 14	Susan L. Hodge	do	77	14	U	Harbour, short provisions supplied by permission.
do 14	Gertie E. Foster	do	83	13	L	do do
do 16	Gertie Evelyn	do	81	14	L	do do
do 16	Hattie L. Newman	do	93	14	L	do do
do 17	General Cogswell	do	130	18	L	Ice, bait, &c.
do 18	Porter S. Roberts	do	72	14	U	Harbour.
do 18	Mystic	do	78	17	L	Ice, bait, &c., transhipped halibut.
do 19	Nellie Burns	Portland	64	13	L	Harbour & ice, &c., transhipped halibut.
do 20	Monitor	Gloucester	104	18	L	Ice, &c.
do 25	Edith S. Whalen	do	78	15	L	Ice, bait, &c.
do 27	W. H. Wellington	do	81	16	L	do
June 1	Iolanthe	do	70	16	U	Harbour.
do 1	Hustler	do	92	17	U	do
do 1	Sarah E. Babsen	do	46	14	U	do
do 1	H. M. Rogers	do	73	16	U	do
do 1	Miantonoma	do	73	15	U	do
do 1	Henry Morgan	do	85	15	U	do
do 2	Lizzie Maud	do	79	16	U	do
do 2	Lilla B. Fernald	do	68	15	U	do
do 2	F. H. Smith	do	70	15	U	do
do 3	Augusta H. Johnson	do	62	14	L	Ice, bait, &c.
do 4	Robert J. Edwards	do	79	14	L	do
do 7	Brunhilda	do	90	16	L	do
do 8	M. S. Ayres	do	76	16	U	Harbour.
do 9	Polar Wave	do	86	16	L	Ice, &c.
do 9	Edith S. Whalen	do	78	15	L	Transhipped halibut, ice, &c.
do 9	Martha C	do	75	16	U	Harbour.
do 9	Abbie F. Morris	do	77	16	L	Ice, &c.
do 10	Lizzie M. Center	do	77	17	U	Harbour.
do 16	Lizzie Greenleaf	do	90	18	L	Ice, &c.
do 17	Sam R. Crane	do	74	14	L	Harbour.
do 21	Dido	do	77	14	L	Ice, &c.
do 21	Mystic	do	78	16	L	Transhipped halibut, ice, &c.
do 21	Robt. J. Edwards	do	77	14	L	Ice, &c.

List of United States Fishing Vessels which visited Canso, &c.—*Continued.*

Date of Arrivals	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L.; if Unlicensed, U.	What in Port for.
1892.						
June 23	J. W. Campbell	Gloucester	79	16	L	Ice, &c.
do 24	J. W. Plummer	do	95	15	L	do
do 27	Elsie M. Smith	do	107	16	L	do
do 27	Abbie F. Morris	do	77	16	L	Transhipped halibut, ice, &c.
do 28	W. H. Wellington	do	81	16	L	Ice, &c.
do 28	Puritan	do	84	16	L	do
July 1	Hattie D. Linnell	do	89	17	L	do
do 1	H. M. Stanley	do	112	20	L	Harbour.
do 2	Helen R. Lowe	do	56	14	L	do
do 4	C. W. Babson	do	85	14	L	do
do 4	Grace L. Fears	do	84	16	L	Ice, &c.
do 5	Maggie E. Wells	do	80	13	L	do
do 6	Robert J. Edwards	do	79	12	L	do
do 11	Abbie F. Morris	do	77	16	L	do
do 11	Edith McInnes	do	80	14	L	do
do 12	Samuel R. Crane	do	74	14	L	do
do 15	Hattie D. Linnell	do	89	18	L	do
do 18	Eastern Queen	do	57	14	U	Harbour.
do 18	Electra A. Eaton	do	73	14	U	do
do 18	Zenobia	do	74	14	L	Ice, &c.
do 19	H. B. Parker	do	94	18	U	Harbour.
do 21	J. W. Campbell	do	79	16	L	Ice, &c.
do 22	Porter S. Roberts	do	72	14	L	do
do 22	John L. Plummer	Portland	95	14	L	do
do 25	Eppes Tarr	Gloucester	66	14	L	do
do 26	Margaret Mather	do	91	16	L	Harbour.
do 26	J. G. Craig	Portland	73	12	U	do
do 29	Annie C. Hall	Gloucester	84	15	L	do
do 30	Henry M. Woods	do	84	16	L	Ice, &c.
do 30	J. A. Garfield	do	69	16	L	do
Aug. 3	Polar Wave	do	86	16	L	do
do 4	R. J. Edwards	do	79	12	L	do
do 4	Annie & Mary	do	68	16	L	do
do 6	Dido	do	77	14	L	do
do 6	J. W. Campbell	do	79	16	L	do
do 8	Maggie J. Wells	do	81	14	L	Harbour.
do 8	F. B. Walker	do	67	14	L	Ice, &c.
do 8	H. D. Linnell	do	89	18	L	do
do 18	H. M. Woods	do	84	16	L	do
do 18	J. L. Nicholson	do	118	18	L	Bait, ice, &c.
do 18	J. A. Garfield	do	69	16	L	do
do 19	Mystic	do	78	16	L	do and tranship halibut.
do 20	Brunhilda	do	90	16	L	do permission to land salt, did
do 20	J. B. McGuire	do	88	18	L	do [not do so.
do 22	S. F. Baird	do	74	16	L	do
do 22	J. W. Campbell	do	79	16	L	do
do 22	Polar Wave	do	86	16	L	do
do 22	Annie C. Hall	do	84	15	L	do
do 22	Eppes Tarr	do	66	14	L	do
do 22	A. E. Whyland	do	123	18	L	do
do 22	Margaret Mathers	do	91	16	L	do
do 24	Zenobia	do	74	14	L	do
do 25	Porter S. Roberts	do	72	14	L	do
do 30	Welcome	do	58	13	U	Harbour.
Sept. 2	Polar Wave	do	86	16	L	do
do 2	Ethel B. Jacobs	do	125	17	U	Bound mackereling.
do 6	Belle Bartlett	Provinceton	72	14	U	Bound home, fished in Bay St. Lawrence.
do 6	J. M. Ball	do	82	14	U	do do do
do 6	Oliver Cromwell	do	60	12	U	do do do
do 6	Gertie Evelyn	Gloucester	81	14	L	Ice, bait, &c.
do 7	Mary Story	do	60	11	L	do
do 8	Hattie D. Linnell	do	89	18	L	do
do 9	Judique	do	115	18	U	Bound home.
do 9	Alice R. Lauson	do	115	16	U	Harbour.
do 9	M. E. Wells	do	80	14	L	do

List of United States Fishing Vessels which visited Canso, &c.—*Concluded.*

Date of Arrivals	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed L.; if Unlicensed, U.	What in Port for.
1892.						
Sept. 12	Senator Salsbury	Gloucester	102	18	L	Harbour.
do 14	S. F. Baird	do	74	16	L	Ice, bait, &c.
do 14	J. W. Campbell	do	79	16	L	do
do 14	Conductor	do	69	13	L	do
do 14	C. L. Woodbury	do	100	18	L	do
do 15	Stranger	do	82	16	U	Harbour.
do 16	Edith McInnes	do	80	16	L	do
do 17	Alert	do	87	16	U	Short provisions, supplied by permission.
do 23	Annie C. Hall	do	84	15	L	Ice, bait, &c.
do 25	F. W. Freeman	do	90	17	U	Harbour.
do 29	Zenobia	do	74	17	U	Ice, bait, &c.
do 29	Dora A. Lauson	do	119	18	U	Short provisions, supplied by permission.
Oct. 3	Ethel B. Jacobs	do	125	17	U	Bound mackereling.
do 6	Eastern Queen	do	57	12	U	Harbour, bound home, was mackereling.
do 7	Volunteer	do	102	18	U	do
do 10	Gertie E. Foster	do	83	14	L	do
do 10	Amy Hanson	Boston	103	16	U	do
do 15	W. E. Morricey	Gloucester	117	18	U	do
do 17	D. A. Willson	Beverley	86	14	U	do
do 17	Annie Wesly	Gloucester	88	18	U	do

List of United States Fishing Vessels which visited Sand Point, Shelburne County, between the 1st January and 7th October, 1892.

Date of Arrivals.	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L; if Unlicensed, U.	What in Port for.
1892.						
Jan. 1..	Thetis	Gloucester	92	18	U	To land a sick man, repairs, sails, &c.
do 5..	Nellie M. Davis	do	87	17	U	Shelter.
do 5..	Volunteer	do	102	20	U	do
do 5..	Carl W. Bastin	do	65	13	U	do
do 7..	American	do	118	211	U	do water, &c.
do 7..	Carl W. Bastin	do	65	13	U	do
do 7..	L. F. Maker	do	104	13	U	do do
do 7..	Lucy Hooper	do	73	15	U	do
do 7..	Sea Fox	do	105	22	U	do do
do 7..	Annie B. Hodgin	do	112	20	U	do
do 7..	Nellie M. Davis	do	89	17	U	do
do 8..	Mist	do	68	6	L	do
do 8..	Gatherer	do	91	7	U	do
do 8..	Delhi	do	188	8	U	do
do 9..	Reub. L. Richardson	do	92	19	L	do
do 9..	Sarah	do	69	15	U	do
do 9..	A. A. Hodsdin	do	112	20	U	do water, &c.
do 9..	American	do	118	20	U	do
do 9..	Carrie E. Lane	do	68	12	U	do
do 2..	Volunteer	do	1,112	221	U	do wood and medical aid.
do 2..	Alice C. Jordan	do	92	7	U	do
do 4..	Augusta E. Hanick	Boston	94	7	U	Leaking; in for repairs.
do 4..	Canopus	Gloucester	68	13	U	Shelter, &c.
do 4..	Sarah	do	69	15	U	do
do 4..	Sea Fox	do	105	22	U	do
do 4..	Edith McPrior	do	1,115	20	U	do
do 4..	Lucy Hooper	do	73	15	U	do
do 4..	American	do	118	211	U	do wood, water, &c.
do 4..	L. F. Maker	do	104	17	U	do and water.
do 4..	Annie B. Hodgin	do	112	20	U	do
do 4..	Reub. L. Richardson	do	92	19	L	do
do 4..	Nellie M. Davis	do	89	17	U	do
do 5..	Edith M. Prior	do	1,115	20	U	do
do 5..	Sea Fox	do	1,115	22	U	do
do 5..	Reub. L. Richardson	do	92	99	L	do
do 11..	Nellie S. Thurston	do	81	13	U	do
do 11..	Sea Fox	do	105	22	U	do
do 11..	Volunteer	do	102	211	U	do
do 11..	Joseph Rowe	do	127	9	U	do
do 11..	Thetis	do	92	18	U	do
do 8..	Reub. L. Richardson	do	92	19	L	do
do 8..	Swift	do	125	7	U	do
do 18..	Nellie S. Thurston	do	87	13	U	do
do 18..	A. R. Crittenden	do	87	15	U	do
do 19..	Sea Fox	do	105	22	U	do
do 20..	Nellie M. Davis	do	89	18	U	do
do 22..	A. T. Griffard	do	81	15	U	do
do 22..	Sea Fox	do	105	22	U	do
do 22..	Nellie M. Davis	do	89	18	U	do
do 23..	Grace L. Fears	do	81	15	L	do
do 23..	Sea Fox	do	105	22	U	do
do 23..	Ligfrid	do	72	15	U	do
do 25..	Wm. H. Jordan	do	86	15	U	do provisions, &c.
do 25..	Ligfrid	do	72	15	U	do
do 25..	Harvard	do	106	7	U	do and water.
do 25..	Reub. L. Richardson	do	92	19	L	do
do 28..	Thetis	do	92	18	U	do
do 29..	A. M. Burnham	do	60	11	U	do
do 29..	Lucy W. Dyer	do	78	15	U	do
do 30..	Thetis	do	92	18	U	do
do 30..	Reub. L. Richardson	do	92	19	L	do
do 30..	Florence E. Morris	do	108	19	U	do
do 30..	David Crockett	do	80	13	U	do

List of United States Fishing Vessels which visited Sand Point, &c.—*Con.*

Date of Arrivals.	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L.; if Unlicensed, U.	What in Port for.
1892.						
Jan. 30..	Winona	Gloucester	103	7	U	Shelter, water and repairs.
do 30..	Vesta	do	73	13	L	do
Feb. 1..	Laura Bell	Portland	77	13	U	do
do 5..	Nellie S. Thurston	Gloucester	92	18	U	For boom and other minor damages.
do 5..	Sea Fox	do	105	22	U	Shelter.
do 6..	Nellie M. Stevens	do	46	13	U	In for repairs.
do 6..	Sea Fox	do	105	22	U	Shelter.
do 9..	Sigfrid	do	72	15	U	do
do 9..	Sea Fox	do	105	22	U	do
do 9..	Reub. L. Richardson	do	92	19	L	do
do 10..	Sea Fox	do	105	22	U	do
do 11..	Mabel Kenniston	do	78	15	L	do
do 11..	Nellie S. Thurston	do	81	13	U	do
do 11..	Isaac Collins	Provincetown	92	19	U	do
do 11..	Edwin B. Holmes	Gloucester	67	13	U	In for shelter and anchors.
do 11..	A. R. Crittenden	do	81	15	U	Shelter.
do 12..	Lucy W. Dyer	Portland	78	13	U	do
do 13..	Nellie S. Thurston	Lockeport, N.S	81	13	U	
do 12..	Nellie M. Stevens	Gloucester	76	13	U	do
do 12..	Sigfrid	do	72	15	U	do and water.
do 12..	Nellie M. Stevens	do	76	13	U	Shelter, &c.
do 12..	Sigfrid	do	72	15	U	do
do 11..	Sea Fox	do	105	22	U	do
do 12..	Luba E. Wilber	Dennisport	99	17	U	do
do 12..	Conductor	Gloucester	69	13	L	do
do 15..	Earnest Vorwood	do	70	13	U	do
do 15..	A. R. Crittenden	do	81	15	U	do
do 15..	Lucy W. Dyer	Portland, West	48	15	U	do
do 15..	Sigfrid	Gloucester	72	15	U	do
do 15..	Edwin B. Holmes	do	69	13	U	do and land sick man.
do 15..	Joseph P. Johnston	Provincetown	93	20	U	do
do 15..	Conductor	Gloucester	69	13	L	do
do 15..	Thetis	do	92	18	U	do
do 15..	John W. Plummer	Portland	95	15	L	do
do 18..	Lucy M. Dyer	do	78	15	U	do
do 18..	Nellie S. Thurston	Gloucester	81	14	U	do
do 20..	Ida M. Hall	do	95	7	U	do
do 20..	Blue Jacket	do	110	8	U	do and water.
do 22..	John W. L. Plummer	Portland, Me.	95	15	L	do
Mar. 5..	Reub. L. Richardson	Gloucester	92	17	L	do wood and water.
do 7..	Eliza B. Campbell	do	95	15	L	do
do 7..	Ambrose H. Knight	do	87	17	U	do
do 7..	Gladstone	do	97	15	U	Medical aid for sick man.
do 7..	Nellie M. Davis	do	87	15	U	Shelter, &c.
do 8..	A. R. Crittenden	do	81	15	U	do and repairs.
do 8..	Reub. L. Richardson	do	92	17	L	do
do 10..	Ambrose H. Knight	do	87	17	U	do
do 10..	Annie C. Bohlin	do	114	19	U	do
do 12..	Wm. H. Wellington	do	81	17	L	do
do 12..	Sylvester Whalen	Boston	111	21	U	do
do 12..	Volunteer	Gloucester	102	19	U	do
do 12..	Caroline Vought	do	80	17	U	do and medical aid.
do 14..	Wm. H. Foye	do	66	11	U	Was disabled in gale on 4th inst.
do 14..	Janie B. Hodgsdon	do	120	19	U	Shelter and repairs.
do 14..	Susan L. Hodge	do	77	15	L	do sick man.
do 14..	Gatherer	do	90	17	U	do
do 16..	A. R. Crittenden	do	81	15	U	do medical aid
do 18..	Gatherer	do	90	17	U	do do
do 18..	Abbie M. Derring	do	96	17	L	do water.
do 18..	Adison S. Proctor	do	84	7	U	do stores.
do 19..	Gatherer	do	90	17	U	do
do 19..	A. R. Crittenden	do	81	17	U	do
do 19..	Janie B. Hodgsdon	do	112	21	U	do
do 19..	Mabel W. Kenningston	do	78	15	L	do

LIST of United States Fishing Vessels which visited Sand Point, &c.—*Con.*

Date of Arrivals.	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L; if Unlicensed, U.	What in Port for.
1892.						
Mar. 19..	Grayling	Gloucester	115	7	U	Shelter and stores.
do 23..	Mabell W. Woolford	do	104	17	U	do
do 24..	Gatherer	do	90	17	U	do wood and water.
do 26..	A. M. Burnham	do	60	11	U	do
do 26..	Longfellow	Bath	253	8	U	do
do 30..	Edward S. Eveleth	Gloucester	84	15	U	do
do 30..	Vesta	do	75	13	L	do
do 30..	John L. Nickerson	do	118	17	L	do
do 30..	Joseph McGuire	do	95	15	L	do
do 30..	Joseph M. Townswood	do	82	13	U	do
April 2..	Parthia	do	1,114	10	L	do
do 4..	Helen R. Low	do	59	12	L	do
do 4..	Riegel	do	107	17	U	do
do 7..	Gatherer	do	90	17	U	do
do 7..	Margaret Mather	do	91	16	L	do
do 8..	Edward A. Perkins	do	86	15	U	Medical aid for sick man.
do 8..	Cornelia M. Kingsland	Greensport	37	4	U	Come in to buy live lobsters.
do 9..	Reub. L. Richardson	Gloucester	92	14	L	Come in to ship balance of crew.
do 9..	Wm. E. McDonald	do	93	17	U	Shelter, &c.
do 12..	Edith S. Walen	do	78	15	L	do
do 12..	John F. Nickerson	Princetown	90	19	L	do
do 13..	Nellie M. Davis	Gloucester	89	17	U	do water and repairs.
do 13..	Champion	do	64	13	U	do
do 13..	Veried	do	92	17	U	do
do 13..	Gatherer	do	90	17	U	do
do 14..	Helen R. Low	do	56	13	L	do
do 14..	Gatherer	do	90	17	U	do
do 14..	Hattie Evelin	do	66	13	U	do
do 14..	Fannie S. Spurling	do	81	15	U	do and water.
do 16 ..	Alice S. Halkes	do	60	13	U	do do
do 20..	Grace L. Fears	do	84	15	L	Licence, wood and water.
do 22..	Elsie M. Smith	do	106	17	L	do do
do 22..	M. L. Ayer	do	76	13	U	Shelter, &c.
do 22..	Minnesota	do	90	15	U	do
do 25..	Edward B. Holmes	do	67	13	U	do
do 27..	Lessie	do	68	13	U	To land sick man.
do 29..	Mary L. Houtwest	do	68	13	U	Shelter and water.
do 29..	Alice S. Hawkes	do	60	13	U	Shelter, &c.
do 29..	Edith S. Walen	do	78	15	U	do
do 30..	Thos. W. Knight	do	62	13	L	do
May 2..	Levanter	do	47	11	U	do wood and water.
do 2 ..	L. Mc. V. Colley	do	95	10	U	do
do 2..	J. W. Collins	Princetown	92	19	U	do
do 3..	Gatherer	Gloucester	90	17	U	do
do 5..	do	do	90	17	U	do
do 9..	Lessie I. Greenleaf	do	88	15	L	do and repairs.
do 12..	Lessie M. Stanwood	do	100	13	U	do
do 13..	Helen R. Low	do	56	13	L	do and medical aid.
do 13..	Oreson	do	69	13	U	do
do 16..	Lessie I. Jones	do	60	13	U	do
do 17..	M. S. Ayer	do	76	15	U	do and water.
do 17..	Agnes L. Downs	do	80	17	U	do and repairs.
do 17..	Hustler	do	92	17	U	do do
do 17..	Hattie M. Graham	do	125	17	U	do do
do 18..	Leslie I. Jones	do	60	13	U	Shelter and water.
do 18..	Norumbega	do	120	17	U	do
do 18..	Lucille	do	99	17	U	do
do 18..	Sarah E. Barson	do	46	13	U	do
do 18..	Rushlight	do	63	15	U	do
do 18..	Grayling	do	115	17	U	do
do 18..	Harry G. French	do	95	17	U	do
do 19..	F. H. Smith	North Haven	70	15	U	Shelter, &c.
do 19..	Caroline Vought	Gloucester	79	17	U	do
do 19..	Davy Crockett	do	80	17	U	do

List of United States Fishing Vessels which visited Sand Point, &c.—*Con.*

Date of Arrivals.	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L; if Unlicensed, U.	What in Port for.
1892.						
May 20..	L. F. Maker	Gloucester	104	17	U	Shelter, &c.
do 20..	Ethel B. Jacobs	do	125	17	U	do
do 20..	Rolette	Boston	79	17	U	do
do 20..	Leslie I. Jones	Gloucester	60	13	U	do
do 23..	Ethel B. Jacobs	do	125	17	U	do
do 23..	L. F. Maker	do	102	17	U	do
do 23..	Davy Crockett	do	80	17	U	do
do 23..	Caroline Vought	do	79	17	U	do land sick man.
do 23..	F. H. Smith	North Haven	70	15	U	Shelter, &c.
do 23..	Harry S. French	Gloucester	92	17	U	do
do 23..	Grayling	do	115	17	U	do
do 23..	Rushlight	do	63	15	U	do
do 23..	Sarah E. Babson	do	46	13	U	do
do 23..	Lucille	do	99	17	U	do
do 23..	Norumbega	do	120	17	U	do
do 23..	Hustler	do	92	17	U	do
do 23..	Agnes E. Downs	do	80	17	U	do wood and water.
do 23..	M. S. Ayer	do	76	15	U	do
do 23..	Carrie E. Sayward	do	59	13	L	do
do 23..	Orient	do	87	*	U	Medical aid, &c.
do 24..	Edward E. Rich	do	79	15	U	Shelter, &c.
do 24..	Lizzie Maud	Portland	79	17	U	do
do 24..	Harvard	Gloucester	106	17	U	Shelter and repairs.
do 24..	Wm. Gaffner	do	70	15	U	do
do 24..	Emma Jane	Portland	40	11	L	do
do 24..	Iolanthe	Gloucester	70	15	U	do
June 4..	Gatherer	do	90	17	U	do
do 5..	Emma Jane	Portland	40	11	L	do
do 13..	Mystic Tie	do	37	9	L	do
do 14..	L. F. Maker	Gloucester	104	17	U	do
do 15..	M. L. Ayer	do	76	15	U	do
do 15..	Ethel Addie	Portland	86	17	U	do
do 15..	S. S. Glover	do	53	15	U	do
do 15..	Hustler	Gloucester	92	17	U	do
do 16..	Herbert M. Rogers	do	73	15	U	do
do 18..	Davy Crockett	do	80	17	U	do
do 25..	Grace L. Fears	do	84	15	L	do
do 28..	Edwd. A. Rich	do	79	15	U	do
do 28..	M. E. Mitchell	Boston	109	18	U	do
do 28..	Viking	Gloucester	62	13	L	do
July 7..	Helen R. Lowe	do	56	13	L	Came in for provisions.
do 15..	Mystic Tie	Portland	37	9	L	In for repairs and baits.
do 18..	Reub. L. Richardson	Gloucester	92	17	L	Shelter and repairs.
do 18..	John L. Nicholson	do	118	18	L	do provisions.
do 20..	Lessie I. Greenleaf	do	88	17	L	do bait.
do 25..	Willie Smith	Portland	30	7	U	In for repairs, leaking.
do 30..	Elsie W. Smith	Gloucester	106	16	L	In for bait and ice.
Aug. 1..	Grace L. Fears	do	84	15	L	Shelter, &c.
do 1..	Mascot	do	77	13	L	Shelter and bait.
do 4..	Viking	do	62	13	L	Shelter, bait and ice.
do 4..	Elsie M. Smith	do	106	18	L	do do
do 11..	Carrie W. Babson	do	85	13	U	do do
do 13..	Mystic Tie	Portland	37	6	L	do do
do 13..	Viking	Gloucester	62	13	L	do do
do 20..	do	do	62	13	U	do do
do 23..	A. J. Gifford	do	81	13	U	Came in to land a sick man.
Sept. 1..	Edith L. Conley	Kennebunk	55	11	U	Shelter.
do 2..	Oresa	Gloucester	82	15	U	do
do 2..	Gladiator	do	107	17	U	do
do 5..	Melden O'Lea	do	102	15	U	Shelter, &c.
do 6..	Mabel Kenniston	do	78	15	L	do
do 6..	May Fernald	do	76	13	U	do

* Number not given.

List of United States Fishing Vessels which visited Sand Point, &c.—*Con.*

Date of Arrivals.	Name of Vessels.	Port of Registry.	Tons.	Men.	If Licensed, L; if Unlicensed, U.	What in Port for.
1892.						
Sept. 6..	Mystic	Gloucester....	78	13	L	Shelter &c.
do 9..	Conductor	do	69	12	L	do
do 10..	Josie M. Calderwood	do	86	13	L	Shelter and medical aid.
do 10..	Triton	do	69	13	U	Shelter, &c.
do 12..	Carrie E. Parsons	do	80	13	U	do
do 15..	Dido	do	77	13	L	do
do 15..	Viking	do	62	13	L	do
do 27..	Zenobia	do	74	13	L	In for bait, &c.
do 27..	May E. Fernald	do	76	13	U	Shelter and water.
Oct. 1..	Eliza B. Campbell	do	95	15	L	do
do 1..	Orient	do	89	15	U	do
do 1..	Caviare	do	59	13	U	do
do 4..	do	do	59	13	U	do
do 6..	Otis P. Lord	do ...	71	11	U	do
do 6..	Viking	do	62	13	L	do bait, &c.
do 6..	Madonna	do	117	17	L	do and water.

APPENDIX No. 4.

DETAILED REPORT OF THE FISHERIES INTELLIGENCE BUREAU.

HALIFAX, N.S., 31st October, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit the annual report of the Fisheries Intelligence Bureau for the season 1st May to 15th October, 1892.

MOVEMENTS OF THE FISH—LOBSTERS.

ANTICOSTI.

The lobster fishery on the coast of Anticosti the past season was a complete failure, owing to the constant destruction of traps by rough weather.

On 29th June traps and gear at Cormorant and Goose Point were destroyed to the extent of $4,000.

QUEBEC.

Percé.—Throughout the months of May and June the catch was on an average fair.

Grand River.—The lobster catch for the whole season is reported fair, but not so good as in previous years.

New Port Point.—The catch for the season was on the average good.

NEW BRUNSWICK.

Caraquet.—The first appearance of lobsters reported was on 2nd May, from which date until the middle of the month but few were taken. During the latter half of May and former half of June the catch was on an average good.

Shippegan.—First appearance about 9th May. The total catch for the season being rather good. Factories averaged about 500 cases each—five boats to a factory.

Escuminac.—First appearance about 8th May, from which time until the middle of the month the catch was poor and irregular.

During the latter half of May the catch was good; fair throughout June, and a few taken from 1st to 12th July.

It is estimated that the total quantity packed will not exceed one-half of that of last year.

PRINCE EDWARD ISLAND.

Miminigash.—First appearance reported 1st May, and continued plentiful until about the middle of the month.

During the latter half of May the catch was fair but poor, and irregular the remainder of the season.

On the whole the fishery has been a failure.

Alberton.—In the vicinity of Waterford, the first appearance noted was on 24th April; and from Waterford up to North Cape, large quantities of lobsters were taken until 10th June. From North Cape down to Malpeque on the north

side lobsters were late striking inshore. It was about 20th May, before there was any fishing worth mentioning, and then no great quantities were taken any day, except at North Cape where very big hauls were made.

Malpeque.—Appeared first about 16th May, and remained in fair quantities until 5th June. Good from 5th to 20th June, when the factories were closed.

The fish were reported plentiful and larger than usual.

Georgetown.—First appearance about 3rd May, from which date until the end of the month they remained plentiful; but owing to unfavourable weather the catch was only fair.

After this, the catch was irregular and poor.

CAPE BRETON.

Port Hood.—First appearance reported 2nd May, from which time until the middle of July they were reported fairly plentiful; but owing to frequent interruptions by stormy weather, the catch was on the whole light.

Mabou.—Appeared first about 25th May, and were taken in fair quantities until 15th July. None reported afterwards.

Reports received indicated, lobsters to be of good size.

Margaree.—Lobsters first appeared about 9th May, but few were taken during the season, excepting 1st to 14th July, when fair catches were made each day.

Cheticamp.—Appeared first 5th May, and remained fairly plentiful until last of June. Few were taken each day during the second week of July, but none afterwards.

St. Ann's.—First appearance of lobsters reported 14th May, from which date until the middle of June the catch was fair; but afterwards the catch was poor.

Ingonish. — Lobsters first appeared about 4th May, and remained in fair quantities until 9th July, when the catches became poor and very irregular.

Louisburg.—Fishing commenced about 26th April, but few were taken until 1st July, when they became fairly plentiful and remained so until the 13th July. Total catch about two-thirds that of previous years.

Gabarus.—First appearance reported 9th May, and good catches were made throughout the month. During the first week of June the weather was very stormy, and a great number of traps were destroyed by the gale of 6th June.

Notwithstanding this, however, the catch until the middle of July was, on an average, fair.

L'Ardoise — Poor May, fair June, poor 1st to 13th July. Fishing was irregular.

St. Peter's.—Lobsters first appeared about 4th May, but the catches were poor throughout May and July, although the average was somewhat better in June.

West Arichat.—The lobster season opened about 20th April, owing to the mildness of the past winter and the absence of drift ice. Encouraged by the previous year's profitable work, great preparations were made during the winter by an increased number of fishermen, in adding largely to their traps and gear, but notwithstanding the increased number of fishermen and traps, the catch was small; being scarcely more than half that of an average year's work.

Arichat.—Lobsters first appeared about 3rd May, and were taken in fair quantities until 1st June, when the catches became poor and remained so until the end of the season.

Hawkesbury.—First appearance reported about 11th May, and fair catches were made each day during the month. None reported afterwards.

NOVA SCOTIA.

Bayfield.—First report received 17th May, indicated lobsters very good in this vicinity, but during the remainder of the season the catches reported were only fair.

The lobsters caught this season were much larger than last year's.

Canso.—From 13th May to end of June light catches were made daily.

Isaac's Harbour.—The catches throughout May and June were poor and irregular.

Spry Bay.—Here also the lobster fishery was poor and irregular throughout May and June.

Musquodoboit Harbour.—Lobsters first appeared about 6th May, but the catch throughout the month was poor and irregular.

No further reports.

Lunenburg.—First appearance of lobsters reported on 7th May, from which time until 24th May they were reported fairly plentiful, but during the month of June the catch was poor. At Blue Rocks, Rose Bay and Cross Island the fishing was irregular, but some fair catches were made during the month of May.

Port Medway.—Lobsters first appeared about 3rd May, and during the month good hauls were made, but after that date the catch was only fair.

Liverpool.—First appearance reported 3rd May, from which date until the 3rd of June the catch was poor, after which fair takes were made until 10th June.

Lockeport—From 9th to 18th May the catch was fair, but after that date the catch was poor.

Port La Tour.—Lobster fishing poor all season.

Pubnico.—Few taken from 18th to 23rd May.

Digby.—First report received 12th May indicated lobsters very scarce, but during the month of June excellent catches were made. None reported afterwards.

Fishermen at Digby report that lobster traps injure the herring fishery, for when traps could not be set herring struck in, and as soon as they were down the herring disappeared.

The above is reported to have occurred several times during the spring.

MAGDALEN ISLANDS.

Season opened at Grand Entry 26th April.

On the south-west part of the island very good catches were made during the season, but at all other stations the catch is only about one-half that of previous years.

CODFISH.

ANTICOSTI.

English Bay.—First appearance reported 30th May, and fair but irregular catches were made until 1st July, when they became good, and remained so until August, during the first week of which month only fair catches were made. Excellent catches were made during the first week of September.

Fox Bay.—Irregular fishing was carried on from about the middle of June until the end of season—a few good catches being made.

South-West Point.—From 6th to 11th July the cod fishery was fair, and from 11th to 12th August good catches were made daily.

During the entire season although cod appeared plentiful at all stations on the island, the great obstacle to the fishery seemed to be the constant lack of bait.

QUEBEC.

Seven Islands.—The catch this season at all stations to the westward of Seven Islands is reported to be much below the average; but at Seven Islands and Moisie it is estimated to be much better than last year.

Gaspé.—Average catch for season.

Point St. Peter.—First appearance about 17th June. Catch for season estimated as fair; 120 boats engaged in the fishery, and had an average of 100 drafts per boat. The great obstacle to the fishery was the scarcity of bait.

Grand River.—The cod fishery commenced about 21st May, and fair catches were made until 1st July, but from that date until the last of August very little was

done either inshore or on the banks owing to rough weather which destroyed a great portion of the trawls. During September the fish appeared quite plentiful but the continuation of rough weather made it impossible to carry on the fishery; and on the whole the catch was poor

Percé.—First appearance reported 20th May, from which date until the middle of June the catch was very good, and fair the remainder of the season.

Newport Point.—Average catch for the season fair.

Paspebiac.—Cod appeared about 24th May, and continued fairly good until end of June; when good catches were made during the first week of July, but poor remainder of the season.

NEW BRUNSWICK.

Caraquet.—The spring catch from 20th May to 15th July was good, but then slackened suddenly owing to the scarcity of cod and bait; and continued from fair to poor for the remainder of the season. During the latter part of September and up to date cod were reported plentiful, but the weather was persistently stormy so that boats could not stay outside. Average catch for season was fair.

Shippegan.—The average catch for the season was poor; being from one-quarter to one-third less than the preceding year and about one-fifth below the average.

Escuminac.—The catch of cod for the whole season was on an average fair.

Campobello.—Here also the cod fishery is estimated as fair.

Grand Manan.—First appearance about 24th June, from which date until the 23rd July the catch was good; fair during August, but poor remainder of the season owing to stormy weather.

PRINCE EDWARD ISLAND.

Miminegash.—The total catch for the season was, as usual, very poor.

Alberton.—The fishermen in this vicinity being devoted to mackerel, the cod fishery was not prosecuted to any extent, in consequence of which the catch was only small; although it is not doubted that the fish were on the grounds.

Malpeque.—Fishing commenced about 5th May and was an average catch.

Georgetown.—First appearance about 21st May, from which date until the end of June the catch was fair; and poor until end of September.

CAPE BRETON.

Port Hood.—The catch for the whole season is estimated as fair; but under the average.

Mabou.—First appearance about 31st May, from which date until the last of July they remained fairly plentiful; during the remainder of the season they were much more irregular and only poor.

Margaree.—From the 15th June until the middle of September the cod fishery was good; the catch up to 4th July being estimated at 50 per cent better than last year. Poor remainder of season.

Cheticamp.—First catch of cod on 5th May, and remained fairly plentiful till last of June, from which time until the last of September the catch averaged from fair to poor.

Meat Cove.—The catch for the whole season was unusually small; but probably due to the great amount of bad weather during the whole season and the scarcity of bait during July and August.

Ingonish.—Cod fishery very poor throughout the whole season.

St. Ann's.—Very few catches reported.

North Sydney.—The cod fishery was a total failure again this year. The only catches reported here were a few irregular ones during May.

Louisburg.—Codfish reported very scarce throughout the whole season; the catch being far below the average.

Gabarus.—Good catches were reported from 1st to 20th June; poor from that date until the 23rd July; fair last week of July; poor 1st to 9th of August; good 9 to 19th August, and fair from that date until end of September.

L'Ardoise.—Catch for the season considerably below the average; but probably owing to the fact that a great portion of the fishermen were employed in the building of a breakwater and but few boats attended regularly to the fishery.

St. Peter's.—The average catch is reported at about 25 per cent below that of last season.

Descousse.—The total catch for the season is estimated at 500 quintals.

Petit de Grat.—First catch of cod reported 17th June. Average catch for the season poor.

NOVA SCOTIA.

Bayfield.—First appearance about 25th May, during the remainder of which month the catch was good; but poor afterwards.

Canso.—First catch reported 13th May, during which month the catch was only poor. Fair, June and July; poor, August, and fair during September. After this it was impossible to fish owing to rough and changeable weather.

Isaac's Harbour.—The cod fishery for the season has been a total failure.

Spry Bay.—The catch during the season was very poor and irregular.

Musquodoboit Harbour.—Cod appeared about the 18th of May, and fair catches were made throughout the season, weather permitting.

Lunenburg.—The shore cod fishery from 20th May until the end of July was reported good; after which date it became poor, owing chiefly to dog-fish, which were very troublesome and destructive.

Port Medway.—Codfish first appeared about 18th May and were fairly plentiful until the last of the month, when they became good and remained so until 9th August, when dog-fish struck in and prevented fishing.

About 18th June they were reported very plentiful from eighteen to twenty miles off shore; but bait being very scarce few were taken.

Liverpool.—Good catches of cod were reported latter part of May and throughout June, but very little was done after this owing to the presence of dog-fish.

Lockeport.—Codfish appeared early, about 3rd May, but were rather scarce during the spring and summer. During the remainder of the season, however, the fishing was exceptionally good. Bankers with hand-lines secured good fares on eastern banks and in Bay Chaleurs; although trawl fishing was not quite so successful. Small craft with hand-lines off shore averaged 400 quintals; while the inshore boats averaged 75 quintals. On the whole, the fishing on the outside grounds and on the La Have banks, has been more successful than for the past eight years.

Sand Point.—Cod appeared about 9th May, and good catches were reported until the last of August, when bait became scarce, and for some time the catch was only fair. In October, however, it again rose to good, and continued so until the end of the season.

Port La Tour.—The average catch for the season is reported at about thirty per cent in excess of that of last season; many of the fish being of large size.

Pubnico.—The cod fishery in this locality good; average catch by Cape shore fishermen about 800 quintals.

Yarmouth.—The catch of cod throughout the whole season was very irregular and very poor.

Freeport.—Estimated catch for season 1,200 quintals.

Digby.—First appearance on 3rd May; catches varying from fair to good until July when they became irregular, and poor throughout August. During the first half of September good catches were again reported, but after that heavy weather prevented fishing.

HERRING.

ANTICOSTI.

No herring of any consequence taken on the island during the season.

QUEBEC.

Gaspé.—The catches during May and June were poor and irregular.

Point St. Peter.—Herring first reported about 17th June, when large quantities of fine quality were taken.

Percé.—The fish were reported as early as 2nd May, and good catches were made until June when they became poor; throughout July the average was fair, but during August and September was again poor. For the remainder of the season fair catches were made daily.

Grand River.—Herring were reported very plentiful from 19th April to 2nd May, when they became poor and remained so, inshore, all through the season. On the banks there was a sufficient supply for bait.

New Port Point.—Herring appeared about 2nd May, and varied from fair to poor during the month. In June the catch was usually poor but fair and irregular throughout July. During the first week of August some very good catches were reported, but none afterwards.

Paspebiac.—Catch for the season very poor.

NEW BRUNSWICK.

Caraquette.—Herring struck in here about 2nd May, and fair catches were made throughout the month. None reported afterwards.

Shippegan.—The fishing is reported a failure.

Escuminac.—The catch of spring herring was fair. None reported afterwards.

PRINCE EDWARD ISLAND.

Miminegash,—Herring struck in here, abundantly, about 1st May, and good catches were reported round the coast to North Cape during the first half of the month; but in the latter only poor. None afterwards.

Alberton.—Herring struck in about 18th April, and until 20th May large quantities could have been taken each day; but owing to the scarcity of salt among the packers, not enough were taken for bait. About 20th May they began to spawn and as usual began schooling. On that date (20th May) one school was seen which would have covered 30 acres but no person tried to catch any.

Malpeque.—Fishing commenced about 5th May and lasted until 5th June. Average catch.

Georgetown.—The herring fishery commenced about 1st May, and fair catches were reported throughout the month. In June the catch was very poor; after which rough weather prevented fishing.

CAPE BRETON.

Port Hood.—Herring struck in 1st May and fair catches were made daily. The whole catch is reported above the average.

Mabou.—Catch for the season poor.

Margaree.—Here also the catch for the season was poor, although large catches were made at Margaree Island from 17th to 23rd September.

Cheticamp.—The catches of herring were light during May, June and July, owing to rough weather.

Meat Cove.—Herring appeared as early as 29th April, but the catch until the end of May was poor, excepting at Cape North where good catches were made on 10th May. The catch throughout June was fair, but poor for the remainder of the month. Large schools were reported in Bay St. Lawrence 11th July and were very plentiful around St. Paul's Island 16th July.

Ingonish.—Herring appeared about 4th May, and fair catches were made during the month; but throughout June few were reported.

St. Ann's.—Herring first taken 2nd May, and fair catches were made during the first half of the month, but poor the latter. Fat herring struck in off St. Ann's Bay 18th June, but no catches were made worthy of mention during the remainder of the season.

North Sydney.—The only report of herring was on 16th July, when fair catches were made.

Louisburg.—The herring catch for the whole season is estimated about one-third of last season's catch. July school did not appear. Dog-fish very troublesome.

L'Ardoise.—Herring catch for the season very poor.

St. Peter's.—The catch of herring throughout June and July was unusually poor; fishermen only using mesh nets. During the second week of May herring were reported plentiful in Bras d'Or Lake and a large number of western bankers baited each day.

Descousse.—First catch reported 11th June, during which month good catches were made. In July excellent catches were reported daily. About 10th August they struck in plentifully, but only remained a few days. Very few were taken during the remainder of the season.

Petit de Grat.—Fair catches of herring were made during the latter half of June, but poor the rest of the season.

Arichat.—Herring appeared earlier this season, but only light catches were made until 23rd July, when the average fell below that of the previous year and fish were of smaller size. About 7th August they again struck in and fair catches were made each day during the month; fish being of fine quality and much larger than the July run.

West Arichat.—The herring fishery, although not general, was nearly up to the average; the July school being of an unusual small size.

NOVA SCOTIA.

Bayfield.—Herring struck in plentifully about 13th May, and excellent catches were made until the 19th. Poor remainder of season.

Canso.—Herring appeared about 7th June, and good catches were reported until the 15th July when the fishing became fair and remained so until the last of September; after which dog-fish became very troublesome.

About 28th June large quantities of herring were taken at White Point and Dover; and on 16th July they struck in off Beaver Harbour, but no catches were reported.

Isaac's Harbour.—The herring fishery, although irregular, was fair from about the middle of June until the middle of the season.

Spry Bay.—Struck in 31st May and fair catches were made throughout June, but poor and irregular during the remainder of the season.

Musquodoboit Harbour.—The catch of herring for the season is estimated as fair, the average being somewhat better than last year.

Lunenburg.—Large schools of herring were reported off Little Hope 12th May and from about that date until the first of August good catches were made at Lunenburg. From August until 13th September the catch was poor when the fall herring struck in and good catches were reported daily until end of season.

On 25th and 26th July excellent catches were made at Chester.

Port Medway.—Herring appeared very plentiful 18 to 20 miles off shore on 1st June, but few were taken until the last week of June, when the catch was fair until 23rd July. Small herring then struck in and good catches were made daily until the last of August; when the fishing fell to fair and continued so until end of September.

Liverpool.—Herring were reported schooling eight miles off shore 14th May, but no catches were reported until 24th June when they were again schooling and fair catches were reported each day during the month. They were again reported schooling from 6th to 8th July, but, as in May, no catches were made. Fair but irregular catches were made during August, after which the catch was poor for the rest of the season.

Lockeport.—Herring struck in about 21st May inside Roseway Bank; and during the following week light catches were made daily. Throughout June the catch was usually poor, while in July the catch was fair but irregular. They again struck in 30th July and were taken in good quantities during August, after which the catch was very good although irregular. The total catch is estimated at about 5,000 barrels; fish being much larger and of much finer quality than for many previous seasons.

Sand Point.—The catch of herring, as far as reported, seemed to be on an average good; but dog-fish prevented the success of the fishery to any great extent. It is estimated that the total catch will be about 3,500 barrels.

Port la Tour.—A few herring appeared about 14th May and were taken in small quantities during the remainder of the month; throughout June and July the catch was fair. On the whole the catch was much better than last year.

Pubnico.—Herring catch for the season a total failure.

Yarmouth.—Struck in about 6th May and although plentiful during the greater part of the season, were of very poor quality and were principally used for bait.

Digby.—Herring appeared about 11th May, the catch being poor until September when the average was good.

MACKEREL.

QUEBEC.

Gaspé.—The first appearance of mackerel was noted on 5th July, but the catch was poor and irregular.

Percé.—Exceedingly few mackerel reported.

Grand River.—First appearance about 2nd July. The fishery for the whole season has been more successful than for years past and the fish more plentiful.

New Port Point.—The mackerel fishery here has been a total failure.

NEW BRUNSWICK.

Caraquette.—Mackerel appeared about 4th July on which date light catches were made. None reported since. They were reported taking hooks freely at Maisonnette on 11th July and schooling on 15th July.

Shippegan.—Mackerel struck in 17th August from which date until the last of the month about 800 barrels were taken. The total catch is reported good; large quantities having been pickled and shipped to the United States, where good prices were realized, while the freezers remain full for winter shipment.

Escuminac.—First appearance noted about 1st July during which month light catches were made each day. About 8th August they struck in plentifully and excellent catches of large fish were made while the weather remained fine. It is estimated the total catch has been a good average.

Campobello.—Very few reported.

Grand Manan.—Mackerel were very plentiful during the whole season, but comparatively few were taken, owing to the fact that fishermen were not prepared for that kind of fishing. The total catch is estimated at about 400 barrels.

PRINCE EDWARD ISLAND.

Alberton.—Struck in very plentifully about 20th June, but few were taken on account of the vessels not being ready. The hook and line fishery was good from Miminegash to North Cape up to 15th July when they slackened off and little or nothing was done until 15th August, when they again struck on west shore also at Tignish when good fishing was made at all stations in this vicinity. Later in the season fat mackerel struck in very plentifully around the northern part of the Island where excellent catches were made. On the whole the average is far in excess of that of last season.

Malpeque.—Fishing commenced about 20th July. On the whole the average was fair but below that of previous years in quantity and quality.

Georgetown.—Catch for the season poor and irregular.

CAPE BRETON.

Port Hood.—A mere sprinkling of mackerel was taken during the season.

Mabou.—Very few reported.

Margaree.—The catches of mackerel, as far as reported, is light.

Cheticamp.—Exceedingly few mackerel taken during the season.

Meat Cove.—The catches during the season were poor and irregular. Schooling in Bay St. Lawrence, 23rd and 24th September, when fair catches were made.

Ingonish.—Fishing commenced 26th May, but was poor throughout June, July and first half of August, when the stormy weather prevented further fishing.

St. Ann's.—Struck in 3rd June, and were taken in fair quantities during the following week. In July light catches were made each day.

North Sydney.—Schooling north from North Sydney Harbour, 2nd June, but no catches reported for the season.

Louisburg.—First appearance noted about 25th May, during the remainder of which month good catches were made daily. From 1st June fair catches were made by nets, boats averaging eight barrels each, for about a week, after which none were taken.

Gabarus.—Excellent catches of mackerel were made each day during the first half of June, some boats having 30,000. It is estimated that the fish were never so plentiful for the last thirty years as they were then. During the remainder of the season the catch was poor and irregular.

L'Ardoise.—During the first half of the season the catch was fair, but latterly, though regular enough, was rather small. Total average for season a little better than last year.

St. Peter's.—Mackerel appeared 26th May, and fair catches were made during the month. The summer school struck in on 8th June and remained all the month, when fair catches were made daily.

Descousse.—From 24th June, the date they first appeared, until the end of the month the catch was good; fair throughout July but poor during August.

Arichat.—The catch for the whole season was poor, excepting the month of June, when the average catch was fair.

West Arichat.—First appearance 27th May. As the fishing was not general, it is estimated that the total catch will not exceed 300 barrels.

Petit-de-Grat.—Schooling in St. Peter's Bay 25th June and 18th July, but no catches reported.

NOVA SCOTIA.

Bayfield.—Struck in about 15th June, from which time until the third week of August, when they became very plentiful and remained so until the last of the month, after which the catches were poor. Fish reported very small.

Canso.—Mackerel were reported schooling 30th May, when netters averaged 200 per man. Good catches were made throughout the 28th June, of which month 200 barrels were taken at White Point, Dover. The catch throughout July and first part of September was light.

Whitehead.—The catch here throughout June and first half of July was very poor; being reported the poorest season for years.

Isaac's Harbour.—The mackerel fishery here has been a total failure this season. No reports of mackerel worthy of mention were received from any station between Isaac's Harbour and Lunenbrg.

Lunenburg.—Struck in 25th May, and fair catches were made with nets until July, when they were taken in good quantities with traps. None reported since.

Port Medway.—Few irregular catches throughout July and first week of August.

Liverpool.—The catch of mackerel, as far as reported, is light.

Lockeport.—Very few reported; total catch not exceeding 100 barrels.

Port La Tour.—Here also the fishery was a failure; the total catch not exceeding 150 barrels. Failure attributed to the fact that nets were kept constantly in the water thus depriving the fish from trimming the shore as formerly.

Pubnico and John's Island.—At Pubnico and John's Island the season's catch of mackerel was light.

Yarmouth.—The mackerel fishery here has been a total failure, notwithstanding the fine weather and the earnest endeavours of the fishermen.

Digby.—The only catch of mackerel reported was on 10th June when several barrels were taken. During the month of July good hauls were made daily in St. Mary's Bay and throughout August excellent catches of large, fat mackerel were made in St. Mary's Bay and Bay of Fundy.

MAGDALEN ISLANDS.

Mackerel appeared first about the 15th July but did not take the hook freely before the middle of August, when they appeared very plentifully all around the north side of the island; but owing to the stormy weather the catch was poor.

The Byron Island mackerel fishery has been very good during the past season.

Along the southern part of the island and particularly in Pleasant Bay, where the mackerel fishery has always been a success, the total catch this year has been a failure; owing to the fact that 400 American nets were spread across the bay, thus presenting the mackerel from coming into the shores.

HADDOCK.

NEW BRUNSWICK.

Beaver Harbour.—The catch of haddock during the first half of June was very good, but stormy weather the latter half prevented fishing. Good catches were made from 1st to 15th July, but poor the remainder of season.

CAPE BRETON.

The catch of haddock throughout the whole season was very poor at Port Hood, Mabou, Ingonish, Louisburg, L'Ardoise, St. Peter's, Arichat and West Arichat.

NOVA SCOTIA.

Lunenburg.—The haddock fishery was good from 20th May until July, after which date the catch was poor.

Lockeport.—The catch of haddock for the whole season has been very poor; boats on the inshore fishery averaging 10 quintals to a boat. Total catch for season estimated at 1,200 quintals.

Port Medway.—Throughout June the catch of haddock was good; fair July, but poor the rest of the season.

Port La Tour.—Estimated total catch for the season not over 75 per cent of last year's catch.

Light catches were made during the season at Whitehead, Liverpool, Yarmouth and Digby.

HAKE.

NEW BRUNSWICK.

Beaver Harbour.—Good catches the former part of July, fair August, but very few reported in September.

Grand Manan and Campobello.—Very good at both stations throughout August; fair at Grand Manan throughout September.

PRINCE EDWARD ISLAND.

Along the coast from Miminegash to Alberton fair catches were reported 8th, 9th and 10th September.

Georgetown.—The fishing was fair in August, but irregular owing to stormy weather. In September poor.

CAPE BRETON.

Port Hood and Mabou.—The fish were plentiful throughout August but owing to unfavourable weather the catch was only fair. In September it was still smaller.

Margaree.—Very few taken during the season.

NOVA SCOTIA.

Lockeport.—Hake reported plentiful off shore ; craft averaging 30 quintals throughout the season. Very few were taken inshore.

Digby.—During the latter part of August and throughout September the catch was good.

HALIBUT.

NEW BRUNSWICK.

Grand Manan.—Fair throughout July, but poor in August. From 10th to 24th September the catch was good.

NOVA SCOTIA.

Lockeport.—Small quantities taken during the season.

Digby.—Fair throughout May and first four days of June.

SALMON.

ANTICOSTI.

The salmon fishery on the Island of Anticosti reported a complete failure.

QUEBEC.

Gaspé.—Light catches reported from 13th May to 11th July when the season closed.

Grand River.—No salmon fishing carried on this season, all the stands having been leased by the owner of the river to prevent net fishing.

NEW BRUNSWICK.

Escuminac.—Light catches reported from 27th May to 14th July.

CAPE BRETON.

Margaree.—The fishery varied from fair to good throughout the latter half of June and former half of July. The total catch for the season is estimated at 25 per cent better than that of last season.

Cheticamp.—Light catches reported throughout June and from 7th to 15th July.

Ingonish.—Light catches latter half of June and first week of July.

St. Ann's.—Light hauls latter half of June and throughout July.

NOVA SCOTIA.

Bayfield.—The salmon fishery is reported better than usual; from 22nd June to 8th July the catch being very good.

Port Medway.—Good catches 6th May to 12th June, but very few taken afterwards.

Liverpool.—Reported on 26th May that the catch was far in advance of last year.

Lockeport.—Some light catches reported in June.

SQUID.

QUEBEC.

Point St. Peter.—Fair throughout August, September and former half of October.

Percé.—Fair August ; good September and half of October.

New Port Point.—Fair latter part of August and good from 1st to 24th September.

Grand River.—Fair but irregular fishing reported during August, September and former half of October.

Paspebiac.—Good catches reported 5th to 10th August, and a few taken throughout the remainder of the month.

NEW BRUNSWICK.

Caraquet.—Very good 1st to 6th August, and a few good catches in September.

Grand Manan.— Light catches 13th to 24th August ; good 10th to 23rd September.

Beaver Harbour.—Very good catches reported from the 16th to end of August, but nothing further.

CAPE BRETON.

Port Hood.—Light catches were made during the latter half of July.

Margaree.—Very good quantities taken during the former half of July, but afterwards the catch was very poor.

Cheticamp.—Throughout July the catch was light ; in August fair, in September light.

Ingonish.—Throughout the latter half of July and the former half of August the fishery was poor ; during the latter part of August, good ; throughout September, fair.

St. Ann's.—Light catches reported during the month of July, but nothing further.

Louisburg.—Good catches reported during the month of August and up to 23rd September.

Gabarus.—Good catches last week of July ; very good 9th to 22nd August, also very good latter part of September.

Petit de Grat.—Fair catches reported throughout August, September and former half of October.

Arichat.—Fair from 4th to 17th September.

NOVA SCOTIA.

The only station in Nova Scotia at which any quantities of squid worth mentioning were reported, is Canso. Here the first appearance was about 24th June, and light catches were made until 25th July. Then they became very plentiful, and excellent hauls were made nearly every day until 15th August. Throughout the remaining part of August and September the catch was poor.

LAUNCE.

ANTICOSTI.

South-West Point.—Fair catches were made each day during the first half of June. None reported afterwards.

Seven Islands.—Excellent catches were reported from 15th July until the end of August, after which time, although irregular, they were taken in fairly good quantities during the first half of September. In October the catch was poor and irregular.

Long Point.—Good catches were made daily at Long Point, Sheldrake, St. Marguerite, Esquimaux Point and Moisie during the month of August ; after which time the fishing, although good was irregular.

Percé.—The catch of launce, although good, was somewhat smaller than last year.

I have the honour to be, Sir,
Your obedient servant,
W. M. HUTCHINS,
Officer in charge of the Intelligence Bureau.

APPENDIX No. 5.

GENERAL REMARKS ON THE YIELD OF THE FISHERIES FOR THE SEASON OF 1892, FROM REPORTS BY THE SEVERAL FISHERY INSPECTORS.

Owing to the early date at which this report requires to be put into the printer's hand in order to be ready for the meeting of Parliament, it is impossible to collect and prepare in time for submission, detailed statements from the respective provinces, as the particulars necessary to complete these are procured from various sources and remote districts, some of which are difficult of access, whilst in others, fishing is actively pursued until the very close of navigation. Full statements of the yield and value of the fisheries of each province during the season of 1892, together with the various fishery officers' reports and statistics will be published in a Supplement to the present report.

NOVA SCOTIA.

Inspector *A. C. Bertram* sends the following report on the fisheries of Cape Breton Island,—*District No.* 1:—

In the Cape Breton Island district the deep-sea fishery is carried on by shore fishermen till the end of the year, therefore I am not in a position in this report to discuss the result of the year's operations from the actual statistics, as they have not yet been gathered by the overseers who personally visit the fishing districts for this purpose at the close of each season and collect them from the fishermen. Enough information, however, of the year's fishery crop thus far is known to warrant the statement here that the present season is one of the poorest experienced by Cape Breton fishermen for many years. I am satisfied the annual report and statistics, which will be forwarded after the close of the season, will bear me out in this statement. The failure in the year's fishery is largely confined to the four principal branches, viz.:—Codfish, herring, mackerel and lobsters.

Cod.

Only in the districts of Cheticamp and Eastern Harbour, on the Gulf coast of the county of Inverness, has the catch been in excess of last year. But in all other districts the decrease is very marked, and even if the balance of the season proves to be exceptionally favourable for this fishery, the year's catch will at least be 25 per cent below an average season's catch. With the exception of the two districts above named, codfish were found scarce on the local banks until the last week of September, but, unfortunately, during nearly the whole month of October the weather had been so unfavourable that only on occasional days were the fishermen able to visit the fishing grounds.

Herring.

To Cape Breton shore fishermen this branch is second only to the cod fishery in importance, but, unfortunately, this year the herring fishery has been almost a failure. A few barrels were taken in the month of May, but the finest quality of herring are those of the midsummer run. This year these fish did not "strike in" as formerly, the result being that instead of an average catch of over 30,000 barrels, the statistics will not show a catch this year exceeding 10,000 barrels. Besides the growing demand for this class of fish abroad, these herring were largely used for home consumption both by fishermen and farmers. As a result, therefore, of the failure of the midsummer herring fishery, want and suffering, it is feared, will prevail in some districts.

Mackerel.

This branch of the fishery, I fear, will also show a great falling off when the year's statistics are published. The spring and summer catches have been failures, but the fall run, which should be now "striking in," may help to lighten the decrease. Of this my annual report and statistics will give the correct result.

Lobsters.

The lobster fishing season closes on the 15th July, therefore a more accurate statement can be made in this report concerning this fishery. Unfortunately, however, like the other three leading branches, I have also to report a marked decrease in the catch of lobsters. This decrease may be estimated at about 38 per cent below last year's catch. Three causes have helped to bring about this shortage, the first being a scarcity of lobsters; the second, a scarcity of bait, and the third, disastrous storms during the month of June and first week in July, by which fully 60 per cent of the fishermen's traps were destroyed. As a result of the failure of the lobster fishery during the past season, more than half a dozen firms engaged in the packing business have been placed in financial difficulties.

The only branches of the fishery which show an increase this year are salmon and alewives.

The annual statistics will give a marked increase in both. Still, while the salmon and alewive fisheries are of considerable importance to our Cape Breton fishermen, the increased catches will only go a short way towards making up for the failure in the four principal branches of our fishing industry. Thus, it will be seen that the present year must prove an exceptionally hard one for the fishermen of Cape Breton Island; possibly the worst ever experienced and certainly the poorest in my experience as inspector.

The River Fishery

during the first part of the season was poor, owing to the drouth that prevailed all through the month of July. The result was that while salmon were very abundant outside in salt water, very few entered the rivers owing to the water in these streams being low. Sportsmen who had come from a distance and spent weeks at our rivers waiting for salmon to ascend, were sadly disappointed. The absence of rain during the month of July also affected the trout fishery, and very few were caught by anglers.

At the present time of writing salmon are ascending the various rivers in very large numbers to spawn. For the purpose of protecting these fish, the department has very wisely instructed me to engage the services of a number of good men who are patrolling the principal rivers as special guardians. The fact that these officers are known to be engaged in protecting the fish prevents any attempt at poaching, and if violations do not occur, it should not be implied that protection is not needed. If the officers were not on duty, violations would be frequent and hundreds of salmon would be netted and speared in the spawning season by people living near the rivers which salmon frequent. There is no doubt but the present system of employing guardians to patrol certain districts, who devote a portion of their time to this purpose and give the result of their work each week, is a marked improvement over the old system of employing permanent wardens. The change is commented on favourably by visitors to our rivers as well as by those of our own people who desire to see the fish protected. The cost of protection will be small this season owing to the fact that the midsummer drouth left our rivers so low that the fish did not ascend before the middle of August. Until then, I considered the services of guardians unnecessary.

The protection given to the various lobster canneries was all that was necessary in the interest of that branch of the fishery. True, violations of the law occurred, notably in Richmond County; but with the exception of those, the packers and managers evinced a desire to strictly comply with the regulations. In this respect there has been a most remarkable change.

The incubators sent down by the department were placed at some of our principal factories. Messrs. Greener & Baker, of Gabarous, showed the greatest desire to give those incubators an efficient test. But the lobster season was almost over before those of our packers with whom they were placed could give the incubators a fair trial. Next season I am in hopes they will be found at all our principal factories, and that through their use, the grounds may be restocked with young lobsters.

Early in the month of May, I received instructions from the department to make a thorough investigation into the fraudulent fishery bounty claims in the county of Victoria, which had been reported to the department. The investigation occupied some weeks, every fishing district in the county being visited by me. Several frauds and irregularities were discovered and reported to the department. Subsequently a representative of the Department of Justice was sent down and one of the accused persons arrested. After a preliminary investigation before the stipendiary magistrate for the county, he was committed to the Supreme Court. It was thought advisable to make a test case of this before proceeding against the other persons. Although there was sufficient evidence to warrant the stipendiary magistrate, who is a lawyer, to commit the accused to stand his trial at the Supreme Court, the Grand Jury refused to find a bill. There were six jurymen for conviction and thirteen against. There is no doubt in my mind that local sympathy with the accused and the fact that the county had to bear the cost of the prosecutions, had something to do in the refusal of the jury to find a bill by which the accused could be put on trial. Similar irregularities are not likely to again occur, as the department has very wisely adopted a better system of taking claims. Instead of officers of another department collecting bounty claims, officers of the Fishery Department have now to do this work. As one officer is obliged to cover at least one county, there should be no possible chance of dual claims, and under the new system frauds cannot occur if the officer exercises care.

During the season Fishery Courts have been held in my district, and in nine cases the accused were convicted and fined for violations of the lobster regulations. The amount of these fines and report of each case have been forwarded the department.

District No. 2.

Inspector *Robert Hockin* sends the following report on the fisheries of *District No. 2, Nova Scotia*, comprising the counties of Cumberland, Colchester, Pictou, Antigonish, Guysborough, Halifax and Hants:—

The value of the catch of fish in this district during the past season will be slightly under the average of the past sixteen years; for although there are favourable reports of several of our important fisheries, there has been an almost alarming decrease in the catch of lobsters which, twenty years ago, was of little or no commercial value, but now is the most important in the district.

Salmon have been more numerous than for several years past, not only during the fishing season, but they are reported as abundant in the rivers during spawning season.

Most encouraging reports have been received of the take of shad, which in 1888 reached the lowest in the history of the fishery; but each year since has shown an increase, last year being fifty per cent over the previous year, and a very material increase will be shown in the catch of this year over last.

What is remarkable is, that notwithstanding the fluctuations in this fishery from an average of 5,000 brls. in 1878–79–90 down to an average of 600 brls in 1877–78–79, the known conditions are the same.

The catch of smelts has been considerably in excess of last year, but that of alewives will be under that of last, and considerably under an average year.

There will be a marked decrease in the quantity of herring taken, but it is too early to predict the probable catch of mackerel, because the month of November is one of the most important in this fishery; but unless the catch exceeds that of last November, there will be a decrease.

In the early part of the year cod and that family were abundant and bait plentiful, and although in later months there was a scarcity of fish in some localities, this fishery will show a considerable increase over that of last year.

Squid were reported unusually plentiful, but the demand fell short of other years, because the vessels purchasing this kind of bait are no longer prohibited from securing their supply in Newfoundland.

The lobster fishery all along the coast has shown a considerable decrease. This district so far as this fishery is concerned, has two well-defined areas: one on the Atlantic, the other on the Straits of Northumberland. Notwithstanding the fact that the one is an exposed coast and the other comparatively sheltered, the decline has been about the same in both areas, indicating that it is attributable to some general cause.

Even had the catch been equal to last year's, it is a question whether the full benefit would have accrued to those engaged in this fishery. Early in the season the market was congested and packers were of opinion that a short catch alone would prevent prices falling still further, and as a matter of fact they have now an upward tendency.

District No. 3.

Inspector *J. R. Kinney*, sends the following report on the fisheries of *District No.* 3, *Nova Scotia*, comprising the counties of Lunenburg, Queen's, Shelburne, Yarmouth, Digby, Annapolis and King:—

Anticipating the annual report upon the actual results of the present year's fishing, I have to say that the year has not—excepting in one or two specialties—yielded wholly satisfactory results. The take of shore cod differed but little from that of the year 1891; the quantity taken and the prices realized, not offering any marked contract. The "bankers" have not landed an average take, and prices being a shade lower than in 1891, this added to the fact that fewer vessels were employed in this branch of the fishing industry, results in a largely decreased aggregated value of the product. The Newfoundland bait embroilment not being settled at an earlier date occasioned loss to our fishing fleet of fine craft, and the necessarily seeking of employment abroad of scores of our men.

There has been a falling off in the inshore take of haddock and hake, and in mackerel, the business has been comparatively a failure.

The export trade in fish has to a large extent assumed a new phase, *i. e.*, the merchants instead of as in former years shipping direct to the West Indies, now sell in the United States for foreign export. If it is asked why our own merchants do not ship direct to the country consuming the product, the answer is plain. The exporter in the United States forwards what may be called assorted cargoes of fish, boards, oil, pork, lard, &c., so as to minimize the general loss should any one or more of the articles find a glutted market. This kind of traffic cannot be pursued by our local merchants, they not having the variety from which to assort a general cargo.

In gill-net fishing, the take of herrings has largely increased, and notwithstanding that prices ruled lower, the total value has been largely increased.

The river fisheries have not been productive of as large an amount as in many former years; but they have not been by any means a failure.

To counterbalance and possibly more than counterbalance any deficit in the value attached to the river and deep-sea fisheries the lobster fishing may be counted upon, this branch of fishing having produced a largely increased value compared with that of any former year. In western Nova Scotia this industry has assumed a vast importance. So much so, that at the present moment, the fishermen and middlemen are busily engaged improving upon old methods and inventing new modes of capturing and exporting this fish. I shall report more fully on this branch of the industry at the close of the year.

NEW BRUNSWICK.

For *District No.* 1, which comprises the county of Charlotte, Inspector *J. H. Pratt* reports that the season has been an average one, among the fishermen. Some fishing grounds will show a gratifying increase, while others will show a decrease; but, on the whole, the yield and value will be about the same as last year.

Line fishing was better than for many years past, especially among the islands in Quoddy River where the catch of pollock was unusually large.

It is to be regretted that the lawless element broke out among peacable fishermen whereby fishery officers were interfered with in the performance of their duties. However, this illegal work was soon put a stop to on the appearance of the cruiser, when several fishermen were arrested and fines imposed. Several hundred men were engaged in this illegal seining.

The heavy duties imposed by the United States on Canadian fish bear very heavily on the fishermen. One of the principal articles of export of this district is smoked herring in boxes, and as the price of this article kept very low during the season, very small, if any, profits were realized by those engaged in the business.

Herring.

The usual school of large herring failed to strike into the Bay of Fundy last winter, and the fishermen found themselves, in consequence, deprived of a lucrative employment. This winter fishing for herring used to give employment to several hundred men; but, during the last three or four years, very few vessels have fished, owing to the scarcity of schools now coming inshore. Many theories have been advanced as to the cause of the disappearance of these fish; but, up to the present time, no satisfactory reason has been adduced therefor. A good many fishermen engaged in the lobster and line fisheries which yielded fair prices.

Lobsters.

The catch of lobsters will be an average one, but the increase in prices which prevailed for a few months, will probably show an increase in value. This fishery is every year increasing in importance, and the fishermen themselves now see the advantage of having the grounds efficiently protested.

Mackerel.

This much sought after fish struck the Bay of Fundy in large and numerous schools during the early part of July, and were followed by a large fleet of United States seiners, numbering at one time, during the month of September, as many as 45 vessels. Those were shortly increased by a number of Canadian vessels which made quite a fleet to look after. Good hauls were made in the Bay; but, early in October, the mackerel disappeared, and the vessels sailed to the westward.

With such a fleet pursuing the mackerel, very few of the schools found their way inshore to the weirs, and the annual reports of the overseers will show a small catch as compared with that of last season.

The usual reports about some United States seiners poaching within the three-mile limit were circulated, which, on enquiry, were found to be groundless.

Pollock, Hake, Haddock and Cod.

An increase will be found in the yield of the above-named fish over that of last season. At the north head of Grand Manan, last winter, contrary to general expectations, these line fish appeared inshore and remained till late in the spring, bringing the fishermen good prices and furnishing remunerative employment to all those who desired it.

Trout.

The returns will show an average catch, but as most of the persons engaged in this fishery are sportsmen, it is impossible to give anything like exact figures. There has been no decline, however, as numbers of persons who sought the favourite lakes and brooks returned well pleased with their visit.

Salmon.

There has been a moderate increase in the number of salmon frequenting the rivers of Charlotte County. An increased run was noticed in the St. Croix River, while numbers of salmon went up by the Magaguadavic fishways to the rivers and streams above, to the great surprise of those who were positive that salmon could not, and would not ascend this river, and that the expense of repairing the fishways at the lower falls was money thrown away. It was a source of great pleasure to the people of St. George and vicinity to find that these game fish were ascending their rivers. It will afford additional inducements to the sportsman to visit that region, and in many ways be a source of pleasure and profit.

Sardine Herring.

The run of small herring was below that of previous years; but, in one or two localities, they were unusually abundant. Special reference is made in this respect to L'Etang and its vicinity, as well as to the Mascarene shore, in St. Andrew's Bay, where large hauls were made. At some of these places, illegal fishing at night by means of seining and torching was carried on, and the local fishery officers met with considerable opposition in their endeavours to stop it. The Government cruiser being otherwise engaged at the time could not render any assistance, but so soon as the seized United States vessel "Hattie Maud" was delivered over to the authorities, these illegal practices were peremptorily put a stop to. Several boats and seines were seized and confiscated, and the owners fined.

DISTRICT NO. 2.

For *District No.* 2, which comprises the counties of Westmoreland, Kent, Northumberland, Gloucester and Restigouche, Inspector *R. A. Chapman* reports that he has every reason to expect that the aggregate value of fish caught, notwithstanding the falling off in smelts, will be larger than that of last year and will amount to nearly two and a quarter million of dollars, nearly all of which is from the coast and river fisheries which are yearly becoming of more importance to a large portion of the population, the natural increase of which is much better maintained in the fishing districts than in any other part of the province.

Shad

shows an increase, but this industry can never assume its former proportions until a stop is put to the destruction of the parent fish on their way to the spawning grounds in the St. John Harbour weirs, by means of a regulation prohibiting their being caught before the 20th June. Such a valuable fish should certainly have some protection during the spawning time.

Salmon.

Net fishing for salmon was not so good as last year on the Miramichi. It was about the same on the coast and in Bay des Chaleurs. Immense numbers of grilse are reported in all the rivers, which augurs well for next year's stock of salmon.

Herring.

The usual large quantity of these fish was taken for food and bait in the spring, except in some parts of Gloucester County where they did not strike as usual. The fall fishery is not prosecuted as much as it should be.

Smelts.

Owing to the very open weather which prevailed in December last, and the consequent lateness of the ice forming on the rivers, there were not as many of these fish caught as during the previous winter. This was especially the case on the Miramichi where the bulk of these fish are usually taken. Ice did not form strong enough below Middle Island until late in the month of December, by which time the smelt had left, thus reducing the quantity taken in all Northumberland County by about seventy-five per cent. In Kent and Westmoreland, the decrease was not so large, and will probably not exceed ten per cent; while in Gloucester County, no

lling off was noticed. The fish were smaller than usual, but those caught this fall, ith hook and line, show that they will be fully up in size, next winter, to those of 91.

The aggregate quantity taken will be about as follows:—

	Lbs.
Gloucester and Restigouche Counties	500,000
Northumberland	1,500,000
Kent	1,500,000
Westmoreland	500,000

r four million pounds, against four and a half million in 1891, and three-quarters illion in 1890.

Cod

ere exceedingly abundant last spring; but as the season advanced, the catch ll off condsiderably. With an increased number of boats and vessels engaged in is fishery this year, quite a large increase in the catch may be expected.

Hake and Ling.

This fishery yielded more abundant results than ever before.

Mackerel.

These fine fish were very abundant all along the coast, and there will probably e a very large increase over the catch of 1891.

Bass.

The shores of Westmoreland, Kent, Northumberland and Gloucester Counties, ogether with the estuaries and rivers emptying therein were fairly alive with young ass of from one to three pounds in weight. This is believed to be partially due to he prohibition of the past three years on the Miramichi and to better protection lsewhere.

Lobsters.

Although the catch in Westmoreland and in the southern part of Kent Counties as considerably below that of last year, it is expected that with the large number f new factories operated this year in every part of this district, the whole pack will xceed that of 1891. It is apprehended, however, that the multiplication of factories ill again tell on the supply of these fish.

Oysters.

A large increase in the take of oysters is reported this year, especially from Northumberland County where the supply appears to be increasing from year to ear, while in Kent County, at Buctouche, Cocagne, &c., over-fishing through the ce is telling terribly on the present, as well as the future, supply of what are now he best oysters taken in the Province of New Brunswick.

QUEBEC.

Commander *W. Wakeham*, who has charge of the Fisheries Protection Service n the Gulf and Lower St. Lawrence, reports as follows:—

Generally speaking, the yield of the fisheries will be satisfactory, the decrease n the south shore being fully made up by a greatly increased catch on the north hore and the coast of Labrador.

Salmon.

The catch of salmon with nets in the counties of Bonaventure and Gaspé was gain small, though slightly in excess of that of 1891. On that part of the coast of he county of Saguenay, east of Moisie, fishing was good; west of Moisie, the fisher- nen, as a whole have done better than ever before. This is the fourth year in uccession that while salmon is scarce on other parts of the coast, it has struck

between Moisie and Godbout in great abundance. There is a very general belie among fishermen that salmon from other parts of the Gulf are attracted to thi part of the north shore in preference to others.

Cod.

Cod fishing began early all over the Gulf. On the south coast, the early fish ing was good, but it gradually slacked off, and at the close of the summer fishery the returns were a long way below the average. During the fall the fishing greatly improved, and good catches were made. The banks of the inner Gulf, that i between Bird Rocks and Bonaventure Island were visited during the early season May and June, by a large number of United States and Canadian bankers; thes vessels did well. They had found fishing poor, and bait scarce on the Atlantic bank and coast, and had followed the fish right into the inner Gulf. Large numbers o these vessels could be seen fishing, about 15 or 20 miles S. E. from Bonaventur Island, from the Percé Heights. Bait was fairly abundant and many vessels baite between Port Daniel Bay and Gaspé.

On the north coast and Labrador the cod fishery has been one of the best o record. Fish came in early and remained a long time on the coast. At Natashquan and about Sheldrake the quantity of fish close inshore was something wonderful. A the former fishing station, between the 2nd June, when the fish first struck, and the 12th July, when the float or inshore fishing ended, the boats made enormous catches one particular boat, a man and a boy, taking 440 cwts. green fish. After the fish moved off shore they still remained abundant in deep water.

A large fleet of Nova Scotia vessels visited the Labrador, and made good fishing. These vessels now nearly all carry cod trap nets, and such as secured good fishing berths had no difficulty in making fares.

The number of Newfoundland vessels on the coast was not as large as usual owing to the ice block in the Straits, they were unable to get up the coast in time.

For the first time since 1858, a few United States codfishermen returned to the Labrador banks; they are reported as having done well. A list of the Nova Scotia and Newfoundland fishing vessels boarded on the Labrador will be found on page 76 of this report.

Herring.

The spring herring fishery began at the Magdalen Islands during the first week of May. The school was not as large as usual, but remained longer ashore. The cutter "Vigilant," Capt. Knowlton, was dispatched to the islands during this fishery and her presence there was the means of compelling a number of United States fishing vessels to take out licenses—as though these vessels have the right to fish for themselves at the Magdalen Islands, they have no right to purchase bait and supplies.

The spring fishery in the Bay des Chaleurs was hardly up to the average. Herring were fairly abundant for bait purposes all through the season.

Fall herring were taken late in the season on the south coast. These are small fat herring. They are not put up for exportation, being taken after the close of the season of navigation, and are therefore only used for local consumption. The Labrador fat fall herring fishery was a failure both on our own coast and on that of Newfoundland. The school usually expected in September, struck in July and August, in the midst of the cod fishing; all hands being fully engaged and rigged for cod fishing, the herring were neglected, and by the time the cod fishing was over, the herring had disappeared.

Mackerel.

Mackerel are certainly increasing in the Gulf Division, though the catch i small, and not up to the figures of the past season. This is no criterion, as so few fishermen are engaged regularly at this fishing, it being only at the Magdalen

Islands that any considerable number of people are actually fitted out solely for the mackerel fishery. A few people at Gaspé and Port Daniel carry on the fishery intermittently, and these all report a considerable body of mackerel in these bays. The mackerel did not school, but they were known to be there as they were seen on the bottom. They never rose freely to the bob, but were taken by trolling, or by actually jigging for them on the bottom with a jig made of three ordinary hooks lashed back to back. The regulation regarding the use of purse-seines was not broken in this division, and only one case of having gill-nets in the water during the daytime was reported. The nets in this case were confiscated by neighbouring fishermen and landed at the nearest custom-house. The summer fleet of United States mackerel fishing vessels remained about the Magdalen Islands in August and September. With one exception, they were all hook-and-line fishermen. As the mackerel did not take the bait freely, none of these vessels did well.

Lobsters.

The catch of lobsters for this season has not been as high as in 1891, and this in spite of the fact that a larger number of traps were fished. The decrease was, however, more felt at the Magdalen Islands and Anticosti, where it is largely attributable to the rough weather in June, and the great destruction of traps. In some cases, so great was the loss of traps during June, that the canneries were shut down. On the mainland coast, the catch was a good average one, and at Percé and Port Daniel, the number of lobsters canned is largely in excess of the previous season. On the whole, it is safe to say that with the now shortened season, and provided the number of canneries does not increase, or rather that the number of traps fished is not increased, the lobster fishery in the Gulf Division is not falling backwards. At Anticosti, it is pretty clearly proved that fishing on the north side of the island will have to be given up, as the lobsters are not there in quantities sufficient to pay. While on the south side of the island, though lobsters are abundant, yet owing to the want of shelter and the very rocky bottom, the fishery will always be uncertain, owing to the almost total destruction of the gear with every southerly breeze.

Seals.

The take of seals, though much below the number killed during the big fisheries of former years, is yet one of the best of recent years. At the Magdalen Islands, the seals struck well on shore; about the same number being taken by the 22 small vessels that went to the ice.

The sedentary fishermen on the Labrador, fishing in the fall did well, but the spring fishing was poor. Complaints are frequently made by the holders of some of these sedentary fisheries that the use of shoal nets in too close proximity to the sedentary frame is injurious. A special officer has been named to look after this matter at Long Point, Labrador.

Bait.

Bait was fairly abundant during the season. The baits are during the early spring, herring and caplin; on the south coast the run of caplin is small and of short duration; on the north coast and Labrador, caplin is the principal and in many places the only bait. As the season advances there comes a time, before the advent of the squid, when herring is about the only bait in use. With the end of July we have on the south shore the squid which remains the taking bait until the end of September, when it leaves the coast and for the rest of the fall season fishermen are again dependent on the herring. Launce and clams are used all through the season when other baits are not to be had. At one time, the smelt was used as bait in the fall, but now that seining for smelt is only permitted under special license, the fishermen are compelled to forego the use of smelt for bait purposes. In some places this is considered a great hardship.

PRINCE EDWARD ISLAND.

No definite report respecting the fisheries of the above-named province has yet been received; but enough has been ascertained through the officers engaged in collecting Fishing Bounty claims to warrant the assertion that the fishing season has generally been above the average, and that from Alberton, around North Cape, to Campbellton, it was very good.

MANITOBA.

Mr. Alex. McQueen, inspector of fisheries, sends the following report on the fisheries of the above-named province:—

The fishing season for the past year has been an exceptionally good one, and fishermen report whitefish as being unusually abundant. Pickerel were also abundant, but evidently not in great demand, as only one firm put down nets for them, and a very limited quantity at that. Pike (jackfish) were very numerous, but being a cheap fish, it does not pay to preserve them in summer for export. Sturgeon were not fished for by commercial fishermen. Summer fishing began about 10th June and ended on the 4th October; the catch exceeds three and a half million pounds. The regulations, both as to domestic and commercial fishing, particularly those relating to the close season for whitefish, were well observed.

The Close Season.

The close season for whitefish under the new regulations extended last year from the 5th October to the 30th of November, but the Order in Council ratifying the regulations passed on the 4th January, 1892, lengthened this period to the 15th December, so that all domestic and commercial licenses in future, will be subject to the law as it now stands. The close season was well observed by white settlers and half-breeds; the Indians, however, fished as usual by special permission from the department, for food for themselves and families. The close season for pickerel and other coarse fish was not so well observed, as several parties were arraigned before the magistrate for infractions of the law last spring. The close season for sturgeon has been changed, and now extends from 15th of May to 15th of July. There has, on this account, scarcely been any sturgeon fishing. A close season has also been established, this year, for the first time, for the following fish: Tullibee, gold-eyes, pike (jackfish), mullets and maskinongé. Tullibee from the 5th October to the 15th December, and the others from the 15th of April to the 15th of May.

Licenses.

There were six commercial gill-net licenses issued during the year, covering 102,000 yards of gill-net and two pound-nets with 500 fathoms of leaders. There were also issued 259 gill-net and 3 seine licenses, yielding in all $1,221 in fees. Returns for said licenses, names of licensees, and amount paid were made monthly during the past year, and the cash received placed to the credit of the Receiver General.

The Summer Catch, 1892.

Fish, as before stated, were very plentiful during the past season, and as a result, the catch has been satisfactory. It exceeds that of the previous season by over one million pounds. Full returns have been received from summer fishermen showing a total catch for the trade of 3,706,736 pounds of all kinds of fish. The season was an extremely favourable one for fishing, and the bulk of the catch was obtained before the 15th of August, when one-third of the number of tugs and boats was withdrawn from fishing. Fishing operations were carried on at the same stations as last year at Lake Winnipeg.

Subjoined is a statement of the quantity of each kind of fish caught at the respective stations:—

	Whitefish. lbs.	Pickerel. lbs.	Pike. lbs.	Sturgeon. lbs.
Berens Island	329,380	90,500	10,920	....
Reindeer Island	650,682	9,983	910	....
Selkirk Island	2,078,736	69,055	1,950	390
	3,058,798	169,538	13,780	390

Eighteen fishermen, with domestic licenses, operated in Sturgeon Bay, and caught 250,250 lbs. of whitefish, 33,000 lbs. of pickerel and 7,280 lbs. pike, all of which were sold to the trade.

Three fishermen, with domestic seine licenses, operated in Red River, where they caught 450 lbs. whitefish, 5,000 lbs. pickerel, 1,700 lbs. sturgeon and 166,250 lbs. of catfish, buffalo-fish, gold-eyes, sheepshead and suckers, which were marketed in Winnipeg and Boniface.

The Manitoba Fish Company operated, during the season, two fishing tugs, one tender tug, one transportation tug, one freezer barge and thirteen sail boats, valued at $45,000. They used in fishing 35,000 yards of gill-net and one pound-net, valued at $3,500. Their other plant consists of freezers, icehouses, docks, &c., at Selkirk and several other stations, valued at $15,000.

Wm. Robinson's Company used in fishing three tugs, one transportation tug, a freezer barge and several sail boats, valued at $41,800. 30,000 yards of gill-net were used by the firm, valued at $3,000. They have besides, freezers, icehouses and docks at Selkirk, Grand Rapids and Reindeer Island, valued at $16,000. This firm added one steam tug to their fleet this year, and their catch exceeded that of the previous year by half a million pounds.

The Selkirk Fish Company operated at Selkirk Island, and used one tug, one freezer barge and four sail boats, valued at $17,000. This firm have freezers, icehouses, docks, &c., at Selkirk and Selkirk Island. They used 11,000 fathoms of gill-net and one pound-net, valued at $1,500. The latter net was set for six weeks and only caught four thousand fish. They do not care for this kind of a net, as they claim the mesh is too large, permitting the fish to pass right through it.

Hansen Bro., Eniar Bergthor and S. Raymond who took out commercial licenses, operated on a small scale and combined freighting with fishing. The first firm used a tug, and each of the others a sail boat, using in all 2,000 fathoms of gill-net. Their aggregate catch amounted to 145,000 lbs. whitefish and 6,000 lbs. pickerel.

River obstructions and Fishways.

There have been complaints of obstructions in rivers, during the year, thus preventing the ascent of fish up streams, for the benefit of settlers who may be located thereon. Happily the number is limited, and the evil is being minimized by the construction of suitable fishways. There has been, however, another trouble for which the Provincial Government is responsible. The swamp lands in the vicinity of Lake Manitoba are being drained into that lake, and as a result, the fish go up the channels thus made and spread over the grassy meadows in myrials. When the water recedes, as it does suddenly sometimes, the fish are left in countless thousands to decay and pollute the surrounding atmosphere. To mitigate this great loss to the fisheries, the Local Government, upon being approached agreed to construct weirs at the mouths of all those drains. They are now being built and there will be in all seventeen of them when finished, so that an effectual barrier will be placed against fish entering those drains. A careful inspection was made last spring of fishways in the dams at Westbourne, Rapid City, Birtle, Carman, Lasalle and Morris and they were found working fairly well except at Carman, Rapid City and Birtle. At Carman, where there are two dams, both fishways were damaged by a freshet. The owners have been instructed to have them replaced in times for next season's run of fish. The dam at Rapid City was effected by cutting a sluice on one side of

it, to allow timber to pass. The owner was instructed to put in an additional pass in this channel, which was done. The dam at Birtle was undermined by a sort of quicksand, displacing the fishway, but it was replaced by a new one in May. Mill-owners have generally complied with the regulations as to sawdust and other mill refuse.

Fish Culture.

The people of Manitoba are looking forward with much interest at the prospect of soon having a fish hatchery, not only that the larger lakes may be protected from depletion, but that the smaller ones throughout the province may be supplied with a new and better kind of food fish, than jackfish and suckers, which are now so common in these waters. A number of applications have been received for bass, carp and perch in western and southern Manitoba, and the applicants were informed that no doubt the hatchery, when built, would meet these requirements. Regarding the proposed hatchery, a suitable site has been secured at the town of Selkirk. Pursuant to instructions from the department tenders were sent last winter for several sites in the vicinity of that town. The one chosen met with the approval of General Superintendent Wilmot and was accepted by the Minister. Tenders are now asked for the construction of a suitable building, and the hatchery will doubtless be in operation next year.

In conclusion it may be stated that it is impossible, owing to the fishing year ending on the 31st December to give a full and complete report at present. The overseers' and guardians' reports and statistics cannot possibly reach the inspector before the middle of January, and it is difficult without them to even approximate the catch under domestic licenses and for home consumption. The catch, however, is likely to be less than in previous years owing to the shortening of the season for winter fishing, The aggregate catch, however, of both summer and winter, will not be much less, if any, than that of the previous year.

Mr. Latouche Tupper, of the Selkirk Fish Hatchery, makes the following remarks on the fisheries protection service in Manitoba, and the beneficial results of the new regulations:—

From what I have heard, I am confident the closing of the mouths of rivers and of the best known spawning beds to the fishermen has, even at this early date, had a marked effect. Several white men and Indians informed me that the Little and Big Saskatchewan Rivers were swarming with young whitefish, more having been seen than for several years past. As far as I can learn, the law is well observed. The fishing companies had their freezers filled and were all in winter quarters some time before the close season commenced. I had no opportunity of seeing if their nets complied with the regulations.

I believe the changes regarding "domestic" licenses allowing fishing for coarse fish in waters not frequented by whitefish, to be beneficial. For the information of the department each licensee should keep strict account of his catch, numbers of each kind, &c., and locality and depth of water.

I think the close season for whitefish and salmon trout well chosen for these waters. There are but very few trout in Lake Winnipeg and these are of inferior quality.

I would recommend that an overseer be appointed for the east side of Lake Manitoba, about St. Laurent. I have heard of some fishing in the close season, and a freezer is being built there. A great many fish are exported from there, being hauled to the Canadian Pacific Railway at Reaburn, a station west of Winnipeg.

NORTH-WEST TERRITORIES.

Inspector *P. C. Gilchrist* sends the following report on the fisheries of the North-west Territories:—

The work of organization has been going steadily on, and, with the new arrangements, I hope that next year the fish of many lakes, that are now being slaughtered in immense numbers, will be preserved for future generations.

At the time of writing my annual report last year, there was but one regular fishery officer, viz.: Overseer John Foster, of Long Lake, and a number of acting officers. These last were officers of other departments who had been appointed *ex-officio* fishery overseers, but very few of them proved to be of any use in the protection of the fisheries. The distances to be travelled are very great; the mode of travel, principally by horse, is very slow and tedious; away from the settlements there are no hotels, and the places where one would have to put up are not of the most inviting kind, and in many cases one will travel for days without coming to a place where he can find shelter, in which there is nothing to do but to camp out. At the present moment there are, including one acting officer, and one mounted policeman appointed a guardian, ten men actively engaged in the work of protection.

North-west Mounted Police.

In every case where I have asked assistance from the Mounted Police officers I have received it, and now that an arrangement has been made by which, where a constable is suited to the work, and is stationed in such a place as to be in a position to do the work advantageously, he may be appointed a special fishery guardian. I expect to receive active assistance of real value to the protective service. In travelling about the country in my official capacity I came across members of the force who were sportsmen and fishermen and who would be willing to aid in the protection of the fish. As they have to patrol the country for many miles on every side of their posts, their knowledge of the country and its settlers must necessarily be considerable, and it was with the idea of utilizing this knowledge and willingness that permission was asked to allow them, when thought necessary, to be appointed guardians.

Regulations.

A great deal of confusion still exists in the minds of many people in the Territories as to the meaning of the terms "commercial" and "domestic" licenses, and I am at intervals in receipt of applications for "commercial" licenses for small lakes, and questions as to whether a man may sell his fish under a "domestic" license. It will be found when the returns come in that the strict enforcement of the license clause has led to a falling off in the catch, particularly in the Qu'Appelle districts.

Doubt was cast upon the propriety of the close season for sturgeon by representations made to your department by many fishermen living on the North Saskatchewan River, that this fish did not spawn at that time, viz., between the 15th May and the 15th July; and, most of the fishermen being Half-breeds, they claimed that it was a great hardship for them to be prevented from fishing, as sturgeon were at this time of the year their main source of food supply; and, as the fish were not spawning, nothing of a protective nature was to be gained by stopping the fishing. Although their statements as to the time of spawning of the sturgeon were most conflicting, it was thought advisable to grant their request and suspend the close season, which was done, particularly as, upon turning up the authorities, it was found that little of a reliable nature was known of the habits of this peculiar fish. It was also thought that, as this was usually the time of the greatest catch, with all the fishermen netting, enough data might be gathered upon which to base a more reliable close season. Accordingly, in June I visited the North Branch with this object in view, but the long continued and excessively high water in the river almost completely prevented netting, and the only result was that the fishermen now admit that they know nothing about the spawning habits of the sturgeon. Acting Overseer Cook, of Prince Albert, expended much time and patience over this question, but says the results are not satisfactory. A more systematic attempt will have to be made next year to solve this problem.

An attempt was made by the fishermen of the Macleod and Pincher Creek districts to have the close season for trout (15th September to 15th May) shortened

so as to begin 1st November. The reasons they gave were as follows: "That on account of high water, &c., the end of summer and fall are our best, and sometimes only, fishing months; that then the farmer and stockman have time for sport; that it is then that fish are in their finest condition for eating and keeping; and that our streams are swarming with fish, it is considered a great hardship to deprive us of the right to catch fish legally at that time. If in a few years it is found desirable to make September a close month, then let it be so." The present close season evidently interferes with the convenience of certain people, and however sincere the writer of the preceding may be, and after acquaintance with him I believe him to be, nevertheless he has got hold of almost the exact arguments that are advanced by fishermen all over Canada. That I might gather some information in reference to the spawning of the trouts, I visited the Pincher Creek section early in October, but, owing to inclement weather, very little could be done in that line, but my observations while there went to confirm in the main my impressions of last year, that one can catch enough fish at almost any time between spring and fall; that in September and October, barring spells of bad weather, the trout may be, and are, slaughtered in, to an eastern person, incredible numbers; that the trout, while still plentiful, are much less so than they were a few years since. It only requires an object lesson in the shape of the Bow River, with its comparatively depleted water stretches, to prove the necessity for a long close season, which should be rigidly enforced. The building of the Calgary and Edmonton branch of the Canadian Pacific Railway into the Crow's Nest Pass will next year place the trout, in all the streams between Calgary and the Kootenay River, at the mercy of hundreds of fishermen from a distance who will do their best to bring these streams down to the condition the Bow River now is in.

A great many sportsmen who reside near, or visit these streams fish for count, and it is a fact that scores and hundreds of beautiful trout were left on the banks of the Old Man's and Kootenay Rivers during the past season to rot.

Many of the small streams in the mountains are crowded with fingerling trout, which are there evidently for the purpose of keeping out of the jaws of the more mature fish in the larger streams; but, although they may get away from the sharks of their own race, they have not taken into account one of another kind, that goes in and kills them in hundreds. These small streams are really nurseries for the trout and should be protected by a regulation compelling every one to return to the water trout of six inches or less in length.

Indians.

The Indian question is the most serious one with which your department has to deal with in the Territories. In the past the Indians have been allowed to do as they liked in regard to the killing of game and fish. So long as the country was inhabited solely by Hudson Bay Company's people, Indians and Half-breeds this was well enough, but things have changed entirely of late years; a considerable white population is now distributed over the country, that will, if indicatiens are worth anything, rapidly increase. The fishing lakes that lie to the south of the North Saskatchewan are few in number and widely separated, and are therefore valuable to the people out of all proportion to their size. The Indians resort to these lakes in the fall, when the fish are on the shoals spawning, and kill all they can. This practice on the part of the Indians and Half-breeds a few years ago, before there were any whites fishing, had already resulted in the depletion of some of the lakes, but what will be the results if such fishing is allowed to go on, with the addition of a constantly increasing drain on the lakes by licensed fishermen during the open season. I was told by the Indian agent at Edmonton that the Indians took from White Whale Lake last fall some 40,000 whitefish, equal to 80,000 lbs., and in the preceding fall 60,000 fish, equal to over 120,000 lbs., or a total of over 200,000 lbs. of whitefish taken out of a lake, 12 by 3 miles in size, in two falls and almost entirely during the spawning season. And yet some people wonder where the fish have all gone to. This lake will now be called upon to stand the additional drain of helping to supply the rapidly increasing population of the Edmonton district.

In my report last year on the organization of the service in the North-west, I drew your attention to the Report of Indian Agent Lucas of Peace Hills for the year 1888, which contained the following, "After the threshing was finished the rations were reduced in flour and very shortly after the meat ration was reduced, as we received a plentiful supply of fish from Pigeon Lake—about 26,000 fish were secured, and all were sold for which sale could be found." Pigeon Lake is about 7 by 5 miles in dimensions, and since 1888 has fallen away considerably in its catch. It has now a railway passing within a few miles of it, and fish are shipped from it to Calgary, McLeod and other places. What would be the result if this fearful drain should be allowed to go on unchecked? By turning to the annual report for 1887 of the agent at Saddle Lake the following statement may be found: "The autumn fisheries with the exception of Whitefish Lake far below the average." His report for 1888 says: "Saddle Lake fisheries attended with very poor results, Whitefish Lake failing, Heart Lake fairly successful at all times, but now the fish have almost entirely disappeared; Beaver Lake fishery a complete failure." In turning over the reports of the last few years, numerous complaints may be found as to the disappearance of the whitefish in many of the lakes, but what is most significant is the entire absence of remarks as to the fish having suddenly reappeared. And yet, wonder is often expressed as to where the fish have gone to, but, in this connection, it must not be forgotten that the area of the greater number of these lakes is small, and if it is found that with the usual amount of fishing there is a gradual decrease in the catch for several consecutive years, there can be but one conclusion arrived at, the lakes are becoming depleted, and once they get into this condition years must elapse ere they can be brought back to a state of productiveness, and, after this depletion has taken place, what is going to make up to the Indians for the absence of many tons annually of such a healthy food as fish are?

Half-breeds.

The Half-breed question is nearly, if not quite, as difficult a one for your department to deal with as is the Indian, and in some respects is more intricate. The Half-breeds as a class are quite as shiftless and improvident as the Indians, with the difference that the Indians have a controlling power always near them, and have, if they evince a desire to better themselves, substantial aid given them to make a start in farming or other work. Some years ago the Half-breeds were well off, with their numerous horses and carts they did the freighting for the entire country, and with comparative wealth, plenty of meat (buffalo) and unlimited leisure, they passed a happy existence. They were in fact the nobility of the North-west, and as such were carelessly happy. Now all is changed. The railroads came in and destroyed their freighting; through the greed of the whiteman, and the love of slaughter of the Indians and Half-breeds, the buffalo disappeared and with them the meat supply of the natives: there was no way to which they would turn to make a living, but the necessities of life compelled them to dispose of, and the temptations of civilization gave them opportunities, of which they gladly availed themselves, for squandering their little wealth of horses, carts, cattle, &c., and now they are the paupers of the West and improvidently miserable. It is hard to imagine the condition of this once happy people. When at a meeting called at Lac La Biche in September last, at which there were assembled about forty men, most of them strong strapping fellows, and the representatives of as many families, the statement was made and vouched for by the Rev. Fathers Grandin and Tissier: "You see us here to-day at our best, we have come to meet you an Agent of the Government, and we have come in our best clothes, to talk over the Fishery Regulations, but it is a fact that, with the exception of two or three of us, our families will have nothing to eat for breakfast to-morrow until we have first examined our nets, and if the wind should rise they will have nothing unless the Father here gives us some flour, for we have nothing but fish to live on." Unfortunate people! "And yet the law must be enforced and the fish preserved for their own sakes and the sakes of their children, but how to do it, and not cause these poor people too much suffering at first, is the question." This is what was said to me by the Right Rev. Father Bishop Grandin, than whom

there should be no better authority on the condition of this people, for he has lived many years among them and knows how the fisheries are failing. He told me that at Lac La Biche 10 years ago two men in a canoe, with flambeau and spear could take in one night in the spawning time 1,000 whitefish, at present they could not take 100 in the same time. At the meeting at Lac La Biche I was told that 10 years ago a man, by attending to it constantly, could take in a 60 yards gill-net, in one night, in the spawning season, 1,000 whitefish, last fall he could not kill more than 20. Ten years ago, before which time comparatively little fishing was done, they having plenty of pemmican, there were 600 people at Lac La Biche, at present there are 300; the lake is 25 miles long and 10 to 12 wide—a large lake, and yet it is on the verge of depletion. It is plain that the Regulations must be enforced, even if it does cause some suffering to the Half-breeds, for, if it is not done, greater hardships will fall to the lot of these people, and the Government will have a large board bill to pay in the north country.

The question will be further complicated if the Indians should be allowed to fish as heretofore, during the close season. How can you tell the thousands of Half-breeds throughout the North-west that they must pay a license to fish; that they must not fish during the close season; that they must observe the fishery laws to the letter, and then expect them to stand aside and serenely watch the Indians doing what they (the Half-breeds) are told not to do, because in so doing they would be destroying their own food supply. Judging by what has been said to me by half-breeds in different parts of the country, they will take it very hard if an exception is made in favour of the Indians in regard to fishing in close season. It would be against human nature to expect it to be otherwise, and human nature is a factor not to be lost sight of when dealing with the protection of the fisheries.

Fishways.

Last spring Overseer Foster found that the fish—pike, pickerel and suckers—were prevented from going farther up the Wascana Creek by the reservoir dam near Regina, and, in consequence, a great many were killed by the townspeople and others. This dam has since given away, and a larger and stronger one is being built conjointly by the Federal Government and the town of Regina. It was considered necessary that a fishway should be put in, and the authorities were notified to that effect. It is now being built after the plans of the Hockin patent.

BRITISH COLUMBIA.

Inspector *John McNab* sends the following report:—

As it is impossible to furnish complete statistical returns, until after the close of the season, these will then, together with tabulated and comparative statements of yield and values, be submitted in a supplementary report.

The fisheries throughout the province have been fairly remunerative and satisfactory during the whole of the present season. The sea fisheries are yet in their infancy, practically, nothing has yet been done towards developing their immense value, beyond demonstrating the fact that the most valuable kinds of food fishes are to be found in apparently inexhaustible quantities within an easy distance of the coast, and that they can be caught and delivered in Victoria, Vancouver, or New Westminster, at rates which allow a larger margin between their cost here, and the prices of similar kinds of fish, in eastern markets. But no sea fish is utilized, except in supplying the limited home demand, except halibut, the catch and export of which show an increase over former years, although the attempts to handle them have been without system, or the employment of the necessary equipment and outfit for catching and conveying the fish to port in good condition.

In the meantime, capital and business methods are all that are required in order to ensure the successful prosecution of an industry which is destined in the near future to assume vast proportions, profitable to those engaged in it and of great value to the country. A market for a very large quantity of our halibut exists at present,

at remunerative prices, but eastern dealers require a guarantee that they will receive regular consignments, which no one in business at present is in a position to give.

An experiment in curing white salmon for shipment to Europe, by a process new in this country, is being tried by a Mr. Bergman, who put up a large number of these fish at Port Essington on the Skeena River, during the fishing season there; as they have not yet been shipped it is too soon to speak of the results of the venture. It is to be hoped, however, that it will prove successful, and that a market may be found for the large number of these fine fish, which at present are considered of so little value.

The salmon pack on the coast exceeded that of last season by 545,884 lbs. On the Fraser River, although the canners put up but a small pack, yet the season has been fairly successful for the fishermen, and also for the fresh fish dealers and exporters; I have not been able to obtain full reports, but from those which I have received to date, I am safe in calculating that the increase in salmon sold fresh, and cured by other methods than canning, will, this season, exceed the quantity disposed of under similar conditions during the season of 1891, by 750,000 lbs. The regulations at present in force for salmon fishing give very general satisfaction to the canners and fishermen, and they have been well observed. The cribs or perforated boxes for retaining the offal from the canneries have been as efficient and satisfactory as it is possible for a system objectionable from so many points of view to be.

During the season fifteen canneries were operated on the Fraser River. Of these six had their offal conveyed to an oil and fertilizer factory; one situated on the North Arm, had their offal carried outside the river, and eight availed themselves of the permission to confine it in cribs, which in my opinion is more objectionable than dumping it into the current of the river when fresh from the fish. Below where the canneries are situated the river is over an eighth of a mile wide at its narrowest part, and, with a depth of over sixty feet, and a rapid current, very little offal ever rises to the surface when put into the river fresh, but after being confined in the cribs until it becomes a putrid mass, and washed out through the interstices, it floats on the surface, as an oily scum, offensive to all who are so unfortunate as to have to use the water.

During the season I visited the Kootenay river and lakes and inflicted a fine of $50 on the lessee of the Buchanan saw-mill, for allowing saw-dust to flow into West Kootenay Lake. I also visited Czanse Creek, and the outlet from Seeton Lake near Lillooet, to investigate the alleged killing of large quantities of youug salmon by the Indians in that locality. I found that the department had been correctly informed in regard to the prevalence of the practice, and that every season, during the migration of the young salmon from the Lake Seeton to the Fraser River, the Indians were in the habit of catching immense quantities of them in traps, and large wicker baskets ingeniously constructed for the purpose. As the Indian agents have been instructed to exert their authority in having a stop put to this very destructive habit, and the agents of Lillooet have become interested in the matter, I trust that the evil will cease; if not, I would suggest that an officer be employed there from the 15th of May to the end of June so as to effectually stop the practice.

Besides the saw-mill at Kootenay Lake fines for similar offences were imposed on the mills at False Creek, and ten on Burrard Inlet, and two on the Skeena River. A case against the Moodieville Land and Saw-mill Company failed owing to the magistrates before whom the case was tried disagreeing. Seven fines were imposed on the Skeena River for violations of the statute against allowing offal to escape, and four persons were fined on the Fraser for violation of fishery regulations.

The guardians under my charge have been active and faithful in the discharge of their duties on the Fraser. I have frequently personally inspected the canneries, when in operation, and have found a general desire on the part of the managers to comply with the law.

Four guardians were employed on the Fraser River and North Arm during the fishing season, and I consider the services of this number to be necessary; on the Skeena River but one was employed, but I beg to recommend that two be employed

there in future during the fishing season, and one each on the Naas and Rivers Inlet as at present, and one each at the Nicomekl and Mud Bay, and at Burrard Inlet and Howe Sound districts, for short periods as occasion may require. In reference to the smaller streams where no commercial fishing is carried on, in my opinion they should be protected by the local authorities, under the Game and Fishery laws of the province, with the exception of such streams as may be in the vicinity of mines or of Indian settlements, such as the Kootenay and Comox Rivers, where I believe that the services of a guardian is necessary from April to November, in order to protect the rivers from the depredations of Chinamen and miners.

THE PACIFIC FISHERIES.

The following extract from an article on the Pacific Fisheries, from the pen of Mr. Eugene C. Blackford, Fish Commissioner for the State of New York, describing the injury occasioned by over-fishing to the rivers of Alaska, forcibly demonstrates the wisdom and expediency of the regulations adopted in this country for the protection of salmon on the Fraser and other streams in British Columbia :

" Alaska, that wonderful country, has fishery resources which cannot be exhausted for centuries, if the salmon only receive proper attention and are allowed to properly propagate. The manner in which these valuable fish are now being wasted is disgraceful. Alaska furnishes the largest portion of canned salmon which is packed in the world, and the United States Government cannot move too quickly to put in force the most rigorous restrictions to prevent the present wasteful methods.

" Here is but one example of the cruel slaughter that is being waged against the salmon. At one canning factory in Alaska 20,000 fish of an average weight of ten pounds each were thrown away in one day in a dead or dying condition because of the incapacity of the nursery to care for them.

" Just think of it, 20,000 pounds of food fish wantonly destroyed.

" What is the reason or excuse for this criminal waste? was asked. The answer was: All the canning factories contract with the Indians to buy all the salmon which they catch during the season, and they are compelled to take the entire catch in order to live up to their contracts and keep them in force.

" Should this slaughter be allowed to continue, history will repeat itself, and it will not be long before the rivers and bays of Alaska will be in the same deplorable condition as the great salmon rivers of the Atlantic coast, and of the Sacramento and Columbia rivers on the Pacific coast.

" There are still salmon in the latter rivers, but they are decreasing very rapidly. The Columbia river has already showed a falling off of 50 per cent in the annual catch."

DESCRIPTION OF A NEW SPECIES OF SALMON.

Oncorhynchus kamloops, from the lakes of British Columbia.—*By David Starr Jordan.*

(Copy of MSS. sent to Smithsonian Institute for publication.)

Oncorhynchus kamloops, species Nova :

Head, $4\frac{1}{2}$ in length to base of caudal; depth, $4\frac{1}{3}$; dorsal rays, 11, not counting the rudiments; anal rays, 11 in one specimen, 12 in the other, besides 3 rudiments; scales, 30, 145, 26 (in second specimen 135 scales); about 120 pores; length of body, largest specimen, $16\frac{1}{4}$ in.; smaller specimen, $15\frac{3}{4}$ in.

Body moderately elongated, somewhat compressed, the general form resembling that of the silver salmon (*Oncorhynchus kisutch*); jaws in the typical specimens not prolonged, the maxillary extending beyond the eye, its length not quite half the head; snout slightly rounded in profile, the profile regularly ascending; eye large, about as long as snout, four and a half times in head; teeth moderate, some of those

in the outer row in each jaw moderately enlarged; teeth on tongue and vomer, as usual in *Oncorhynchus*; opercles striate, not much produced backward; branchiostegal rays, eleven on each side; dorsal fin rather low, its longest ray slightly greater than the base of the fin, 1 3·5 in head; anal fin lower and smaller than usual in *Oncorhynchus*, its outline slightly concave, its longest ray greater than the base of the fin and a little more than half head; adipose fin moderate; caudal fin rather broad, distinctly forked, its outer rays about twice inner; pectoral fins rather long, $1\frac{1}{3}$ in head; ventrals moderate, $1\frac{3}{4}$ in head; gill-rakers comparatively short and few in number, about 6 plus 12 or 13.

Coloration, bark olive above, brightly silvery below, the silvery colour extending for some distance below the lateral line where it ends abruptly; when fresh the middle of the sides in both specimens was occupied by a broad band of bright, light rose pink, covering about one-third of the total depth of the fish; back above with small black spots about the size of pin heads irregularly scattered and somewhat more numerous posteriorly; a very few faint spots on upper part of head; dorsal and caudal fins rather closely covered with small black spots similar to those on back but more distinct; a few spots on the adipose fin, which is edged with black; lower fins plain, the upper border of the pectoral dusky; a vague dusky blotch on the upper middle rays of the anal; ventrals entirely plain.

The intestines had been removed and so no account can be given of the pyloric cæca.

The existence of this fish was first known to me from conversation with Mr. A. C. Bassett, of Menlo Park, Cal., a very enthusiastic angler, who had taken the fish in the Kamloops Lake in British Columbia. I was unable to identify the fish from the account given by Mr. Bassett. In going for a summer outing in July, 1892, Mr. Bassett went to Kamloops Lake and secured the two type specimens, which were carefully placed in alcohol and sent to me. The following statement of their habitat was furnished me by Mr. Bassett.

"These specimens were taken at the outlet of the Kamloops Lake into the South Thompson; the North Thompson flows into the upper end of the same lake. These waters connect with the Shuswap lakes, and this fish we find in all the tributaries of the last named lakes, also in Okanagan Lake, the waters of which flow toward the Columbia (the other lakes being tributary to the Fraser River). Reliable information gives the weight of the largest specimen ever caught in Okanagan Lake as $17\frac{1}{2}$lbs. The Shuswap Indian name for this salmon is *Stit tse.* They have been taken fifty miles below the Kamloops Lake in the Thompson River, but not in large numbers."

This seems to be a species of salmon entirely distinct from the five hitherto authentically recorded from the waters of the Pacific coast. There is not much doubt from the account of Mr. Bassett as well as from the appearance of the fish that it is a "landlocked" species of salmon. Its nearest relationships seem to be with the king salmon or quinnat (*Oncorhynchus tshawytscha*), but from the quinnat it differs somewhat in coloration, and especially in the very much smaller size of the anal fin and in the reduced number of branchiostegals. It is possibly descended from the quinnat, but in any event it is so modified that it must be regarded as a different species.

I have given the species the name of the lake from which it was first taken. One of the two type specimens has been sent to the United States National Museum, the other is in the museum of the Leland Stanford Junior University. With these two specimens was a small fish about 5 in. long of the kind on which these salmon were feeding. This little fish was without spots, and has some eighteen rays in the anal fin. Apparently it is the young of the quinnat salmon; certainly it is not the young of the species in question.

The discovery of this landlocked salmon lends additional probability to the theory that the small landlocked salmon of the various lakes in British Columbia and Washington which has been known by the name of *Oncorhynchus kennerlyi* is really to be regarded as a distinct species as Dr. Bean has maintained and not as a form of *Oncorhynchus nerka.* The *kennerlyi* reaches a length of about 10 or 12 in.

and the weight of little if any more than a pound. It can be distinguished from the present species by its small size and by the very much greater number of its gill rakers, which if my notes are correct, are upward of forty in number in the Nerka. The small white salmon to which the name of *Salmo warreni* was given by Dr Suckley is probably the female of the *kennerlyi*. I do not find among the various nominal species described by Dr. Suckley, any which seem at all to correspond to *Oncorhynchus kamloops*.

Palo Alto, Sept. 12.

APPENDIX No. 6.

SCHEDULE of Applications for licenses of Areas for Oyster-culture between the years 1882 and 1892, with action taken thereon.*

Date of Application.	Name of Applicant.	Residence.	Locality applied for.	Remarks.
			P. E. Island.	
Sept. 28, '82.	C. F. Stackpole.....	Charlottetown...	York River, from Pleasant Bay to Point Mary.	Inspector reports adversely.
July 6, '83.	R. W. Sharp.....	Summerside	Summerside Harbour....	No plan furnished; Inspectors Dewar and Hackett both recommend.
Mar. 1, '84.	Hon. J. N. Fraser	St. Peter's Bay..	St. Peter's Bay, King's County.	Inspector reports adversely.
Aug. 6, '87.	Robert McLeod.....	West River.....	At Rocky Point, Queen's County.	Withdraws his application.
Feb. 11, '88.	R. Roblee.....	Summerside	Summerside Harbour....	Inspector reports favourably, but has not sent plan of survey.
do 23, '88.	C. A. Hyndman	Charlottetown...	All the oyster beds included in York River and Elm Creek.	License granted for 9 years from 1st Dec., '91, at $40 a year, for 40 acres in North River and Ellen's Creek.
Mar. —, '89	John Richards.....	Biddeford	Oyster bed No. 1, in Narrows or Lennox Passage, Township No. 12.	Inspector reports adversely.
Nov. 14, '89.	Richard Hunt	Summerside	That portion of Bedeque Bay known as "The Flats," in front of Summerside, east of the railway wharf.	Declined to accept license if rent exacted.
do 15, '89.	Wm. Murphy.....	Charlottetown...	Seal and Orwell Rivers at head of Orwell Bay.	Inspector considers area too large; does not favour application.
do 23, '89.	R. T. Holman.	Summerside ..	That portion of Bedeque Bay above Summerside and Indian Point Reef, including Wilmot and Dunk Rivers.	do do ..
'90.	Joseph Hayley.....	Hazel Green ..	That portion of Pownal Bay known as Humbug Channel.	No oysters there now; license issued for 9 years from 1st Dec., '91, at $2 a year.
June 21, '90.	John R. Larkin.	Richmond St'n..	Grand River opposite Lot 14, Prince County.	Inspector recommends, but no plans yet furnished.
Aug. 28, '92.	Daniel McNeill.... ...	Long Creek P.O., Lot 65, P.E.I.	On the west or Elliot River, including Clyde River channels.	Requested to furnish proper plan of survey.
Sept. 2, '92.	Edwin Turner.	Charlottetown...	The channels of Long Creek and Clyde River.	do do ..
do 8, '92.	Wm. P. Hodgson.....	St. Catherines, P.E.I.	Two acres on the east side of Shaw's wharf.	do do ..
do 5, '92.	Angus C. McEachern..	do ..	Above the bridge on West River.	do do ..
do 5, '92.	Duncan Darrach	Clyde River ...	Five acres of Clyde River near Darrach's Creek.	do do ..

* NOTE—See report on Oyster-culture, page xv.

SCHEDULE of Applications for Oyster Fishery Privileges—*Continued.*

Date of Application.	Name of Applicant.	Residence.	Locality applied for.	Remarks.
			P. E. Island—Con.	
— '92.	Augustus Campbell & Daniel McEachern.	Johnston's River Lot 35, Queen's Co., P.E.I.	Johnston's River	Requested to furnish proper plan of survey.
Oct. 11, '92.	Donald McLeod	Orwell Cove	Orwell Bay	do do
do 14, '92.	Angus McDonald	Cornwall, P.E.I.	Mill Creek	do do
April 18, '91.	George Inman	St. Eleanor's	Opposite his property in Shemody Bay, Lot 17.	Application refused.
Aug. 15, '91.	Wm. McEachern	New Haven	West River	Preliminary application only; correct plan of survey requested.
Oct. 16, '91.	J. T. Jenkins	Charlottetown	Beds in North River	do do
			Nova Scotia.	
Sept. 1, '83.	Simon Chisholm	River John	River John, from village upwards for one mile and a half.	Correct plan of survey wanted; inspector reports favourably.
Dec. 19, '84.	H. P. Clay	Halifax	Pugwash River, including Doherty and Page's Creeks.	Inspector says grounds fished by the public, but reports favourably; no plans of survey furnished.
April 20, '86.	Thomas Cloney	Pugwash	Pugwash River	Has since died.
Aug. 27, '86.	G. A. Gillis	Doherty Creek	Doherty Creek, Cumberland County.	Inspector Hockin unable to get any information *re* this applicant.
April 28, '87.	Richard Chesnut	Coluno Mill	Pugwash River	Withdraws in favour of Silas Wacom.
Oct. 1, '89.	Hiram Brown and John Tuttle.	Wallace Bay	Wallace Bay, from Wallace Aboiteau Road to Birch Island.	Inspector to make further inquiries; application in abeyance; better plan of survey asked for.
Nov. 2, '89.	J. K. Ogilvie	Wallace	Wallace Bay	Inspector cannot recommend.
do 10, '89.	Silas Wacom	Cowns Mills	Pugwash River, from line R. Chesnut's property to John Morris' north line.	Application conflicts with others; further inquiries being made.
do 14, '89.	Lewis Jones and others	Pugwash	Pugwash River, from railway bridge to 1,000 feet south of Benjamin's Creek.	Inspector reports favourably, and applicant requested to send plans of survey.
do 14, '89.	John Ross	Wallace Bridge	Wallace River, 140 rods	License issued 1st Nov., 1890, and cancelled 31st Oct., 1891.
do 15, '89.	S. McPherson	Pugwash River	Pugwash River, from south line of his property to north line of H. McPherson's property.	Covers ground applied for by Silas Wacom.
do 15, '89	Saml. McPherson	Pugwash	Pugwash River, from Derby Bridge to Johnston's Creek.	Inspector says these grounds covered by previous application, but recommends.
do 15, '89.	Alonzo Smith	Wallace Bridge	Wallace Bay, fronting his property and extending to Aboiteau.	Application conflicting with others; further inquiries being made.
Nov. 25, '89.	Thos. A. Fraser	Pugwash	Pugwash River, from Johnston's Creek to Fraser's Creek.	Inspector reports favourably; awaiting plan of survey.
do 25, '89	H. C. Chisholm	do	Pugwash River, from Fraser's Creek to Cantville's Creek.	do do
Dec. 6, '89.	H. G. Elliott	do	710 feet of Pugwash Harbour below railway bridge.	Requested to furnish correct plan of survey.

SCHEDULE of Applications for Oyster Fishery Privileges—*Continued.*

Date of Application.	Name of Applicant.	Residence.	Locality applied for.	Remarks.
			Nova Scotia.—Con.	
June 14, '90.	Robert Blair ..... Wm. Murphy..... Frank Dobson.....	Wallace	Wallace Bay, fronting on Robert Blair's property.	Inspector favourable; awaiting plans of survey.
Aug. 27, '90.	Alex. Munro.....	Lower Sutherland.	Merigomish Harbour	Inspector reports favourably; plan of survey requested.
Dec. 15, '90.	Hon. A. Macfarlane...	Wallace, N.S...	Malagash Bay.....	Expiring lease renewed for one year from 23rd Dec., 1890.
Nov. 25, '90.	Wm. R. McKim	Wallace Bay, north side.	At the Wallace Aboiteau, fronting his property.	Correct plan of survey requested.
Aug. 29, '91.	Kenneth Urquhart....	West Cariboo...	22 acres of Big Gut, Cariboo, between the bridge and harbour.	Application in abeyance.
Feb. 22, '82.	E. D. Paquet.....	Aspy Bay	Aspy Bay.....	Inspector reports present residence of applicant unknown.
July 7, '92.	Havelock Clay.....	Pugwash	Pugwash River.....	Application same as applied for in 1884; fished by public. Inspector reports favourably.
Sept. 22, '92.	J. J. Cameron, M.D...	Antigonish	West Arm of Tracadie Harbour.	Better plan of survey asked for.
July 2, '92.	Alex. McNab.....	Upper Malagash	In front of his own property and that of John McNab, at Upper Malagash.	Lease for 9 years granted, 29th Oct., 1892, at $22 per annum.
Oct. 27, '92.	Andrew Kavanagh....	West Tatamagouche.	On the south side of McNab's Bay.	Plan of survey asked for.
Sept. 14, '85.	P. S. Hamilton.....	Port Moody, B.C	Barrachois des Huîtres, Red Island, Co. Richmond.	Inspector reports applicant as non-resident.
June 8, '88.	Wm. Kidston.....	Whycocomagh..	Mouth of River Dennis, including all tidal waters west of boom.	Failed to furnish necessary plan of survey.
do 8, '88.	R. McDonald.....	Sydney.....	The sand flats in Lingan Bay.	Inspector sees no objection, but applicant declines to have survey made.
Dec. 11, '88.	Jacob S. Hart, Chas. A. Robertson, and G. H. Crowdis.	River Dennis...	River Dennis, from boom to Crowdis Bridge, including Bay of Orangedale.	Inspector recommends smaller area, but applicants declined to have survey made.
do 26, '88.	A. A. Munro.....	Whycocomagh..	Whycocomagh Bay.....	Inspector reports adversely to granting the whole bay; party refused to have survey made.
			New Brunswick.	
....	Daniel Hatton & Co...	Montreal. . .	81 acres near Bay du Vin River, Northumberland Co.	Lease issued for 15 years from 1st Oct., 1891, at $81 per year.
Feb. 11, '85.	T. B. Williston	Bay du Vin.....	For portion of Bay du Vin around Bay du Vin Isl'd.	This application to cover grounds included in lease to D. Hatton.
Oct. 11, '85.	C. W. Wyse.....	Chatham.....	For portion of Bay du Vin around Egg Island.	do do
Mar. 23, '91.	F. W. Russell.....	Black Brook....	No definite locality given.	Further information and plans of survey asked for.

SCHEDULE of Applications for Oyster Fishery Privileges—*Concluded.*

Date of Application.	Name of Applicant.	Residence.	Locality applied for.	Remarks.
			New Brunswick—Con.	
Mar. 2, '92.	A. Williston & Co.....	Bay du Vin.....	Eel River, Bay du Vin, 30 acres.	Lease to be granted from 1st May, 1893, for 15 y'rs
April 12, '92.	C. S. Bremner	Hardwicke.	Bay du Vin.....	Application will be considered on receipt of the correct plan of survey asked for.
			British Columbia.	
Mar. 9, '91.	E. A. Brown.....	Vancouver.....	A bay in Pender Harbour, opposite his property.	Plan of survey requested.
July 28, '91.	Adolphus Ferguson. ..	N. Westminster.	Mud Bay.....	Grounds covered by lease to W. N. Boles.
... .	W. N. Boles.....	do ..	Boundary Bay, Gulf of Georgia.	Lease granted for 20 years, 15th Mar., 1882, and cancelled 1st April, 1892.
Oct. 3, '91.	Charles Kelstrup and Hugh Campbell.	Vancouver.....	Vandouks Creek, Cortes Island, Straits of Georgia.	Inspector recommends; plan of survey asked for.
Nov. 9, '91.	Prof. L. Zimmer.....	do	South shore of Burrard Inlet fronting Stanley Park	do do
April 27, '92.	John Cant.....	Oyster Harbour, Chemainus, B.C.	Oyster Harbour, Vancouver Island.	License granted, 1st July, 1892, for 9 years.
May 4, '92.	Indians of Chemainus and Sickameen Reserve, Vancouver Isl'd	Oyster Harbour.	For flats opposite their reserve.	Under consideration.
Aug. 25, '92.	John Brenton & Sons .	do ..	Portion of flats in Oyster Harbour.	do do
do 25, '92.	David Page.....	do ..	do do ..	do do

APPENDIX No. 7.

List of Employés of the United States Commission of Fish and Fisheries in Washington, D.C., 1st March, 1892.*

A.—DIVISION OF ADMINISTRATION.

Name.	Office.	Legal Residence.	Compensation.
Commissioner's Office.			$
J. J. O'Connor	Chief clerk	District of Columbia	2,400
T. H. Bean	Ichthyologist and editor	Pennsylvania	2,400
Edward Hayes	Stenographer	District of Columbia	1,800
F. P. Fennell	Clerk	do	1,600
J. W. Scudder	do	do	1,600
William Barnum	Proof-reader	New York	1,500
Ebenezer Ellis	Librarian	do	1,500
Miss J. L. Rockwell	Clerk	District of Columbia	1,000
R. E. Lewis	do	Virginia	780
Miss L. J. R. Stoerzer	do	District of Columbia	600
Mrs. N. E. H. Dutrow	do	Maryland	600
Office of Accounts.			
H. A. Gill	Disbursing agent	New York	2,400
A. C. Addison	Clerk	District of Columbia	1,600
Miss M. S. Nicholson	do	do	1,080
Miss C. E. Gill	do	New York	720
Engineer's Office.			
C. E. Gorham	Engineer	Connecticut	2,000
G. A. Schneider	Draftsman	District of Columbia	1,000
Miss B. S. Stocks	Clerk	do	720
Office of Property.			
J. Paul Wilson	Clerk and superintendent of offices	New Jersey	2,000
Miss A. C. Lincoln	Clerk	District of Columbia	900
George E. Butler	Messenger and janitor	do	600
James H. Johnson	do	do	600
Washington Robinson	do	do	600
Mrs. Fannie Pryor	Charwoman	do	480

B.—DIVISION OF FISH-CULTURE.

Propagation General.			
W. DeC. Ravenel	Field superintendent	South Carolina	1,800
John Gay	Inspector of stations	Pennsylvania	1,500
Gen. H. Tolbert	Fish-culturist	Maryland	960
Wm. P. Sauerhoff	do	do	960
Wm. Maynard	do	Rhode Island	780
Central Station.			
S. G. Worth	Superintendent	North Carolina	1,800
John Brown	Clerk	New York	1,200
P. T. Yeatman	do	Virginia	900
W. R. Sauerhoff	Machinist	Maryland	1,080
John Cassell	do	do	960
Edward Flagg, jun.	Fireman	do	540
Patrick Nelligan	do	District of Columbia	540
Marcy N. Tune	Watchman	do	720

*This does not include labourers, &c., nor members of the classified civil service.

List of Employés of the United States Commission of Fish and Fisheries in Washington, D.C., 1st March, 1892—*Concluded.*

B.—DIVISION OF FISH-CULTURE.—*Concluded.*

Name.	Office.	Legal Residence.	Compensation.
			$
Aquaria, Central Station.			
L. G. Harron	In charge of aquaria	Pennsylvania	960
Fish Ponds.			
Rudolph Hessel	Superintendent	Maryland	1,800
Z. H. Goldsmith	Foreman	do	840
Distribution of Food Fishes.			
Frank L. Donnelly	Clerk	Maryland	1,600
Jesse McDaniel	do	Iowa	900
Miss N. V. Barry	do	District of Columbia	720
Car and Messenger Service.			
J. F. Ellis	Superintendent	Massachusetts	1,500
Miss O. M. Shaffer	Clerk	Michigan	600
Richard Dana	Assistant messenger	New York	900

C.—DIVISION OF SCIENTIFIC INQUIRY.

Richard Rathbun	Assistant in charge	New York	2,700
B. W. Evermann	Principal assistant	Indiana	2,000
John D. Battle	Assistant	South Carolina	1,200
R. R. Gurley	do	District of Columbia	1,200
W. C. Kendall	do	Maine	900
H. R. Center	Clerk	Virginia	1,200
H. S. Hinrichs	do	Maryland	900
Francis McCormick	do	Virginia	720
B. L. Hardin	Computer	do	720

D.—DIVISION OF FISHERIES.

J. W. Collins	Assistant in charge	Massachusetts	2,700
H. M. Smith	Clerk	District of Columbia	1,800
W. H. Abbott	do	Illinois	1,200
S. LeR. Pritchard	do	District of Columbia	1,000
H. P. Parker	do	do	1,000
Wm. R. Davis	do	Nebraska	720
R. S. Downs	do	District of Columbia	720
W. A. Roberts	do	Maryland	720
Miss L. M. Collins	do	do	720
W. A. Wilcox	Field agent	Massachusetts	1,380
Ansley Hall	do	do	1,000
E. E. Race	do	Maine	1,000
C. H. Stevenson	do	Maryland	1,000
T. M. Cogswell	do	Colorado	900
Charles E. Ingersoll	do	Kentucky	720

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Supplement No. 4 to the Annual Report of the Department of Marine and Fisheries

FISHERIES STATEMENTS

AND

INSPECTORS' REPORTS

FOR THE YEAR

1892

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
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TO THE

SUPPLEMENT No. 4 TO THE ANNUAL REPORT

OF THE

DEPARTMENT OF MARINE AND FISHERIES

1892.

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REPORT

ON THE

FISHERIES OF THE DOMINION OF CANADA

FOR THE YEAR 1892.

---

o the Honourable

CHARLES H. TUPPER,

Minister of Marine and Fisheries.

SIR,—I have the honour to submit the Fisheries Statements and Inspectors' reports, cluding the report on fish-breeding operations by the Superintendent of Fish Culture, r the year 1892. These statistical statements being compiled to the end of the calendar ar, are necessarily issued at a later date than reports comprising the fiscal year only.

Some of the fishery officers' reports are not so extensive as usual, owing to their ving sent in preliminary reports in November last, already published in the annual port of this department.

VALUE OF THE CANADIAN FISHERIES.

The total yield of the fisheries of the Dominion of Canada amounts to $18,941,171, follows :—

Nova Scotia	$6,340,724
New Brunswick	3,203,922
British Columbia	2,849,483
Quebec	2,236,732
Ontario	2,042,198
Prince Edward Island	1,179,856
Manitoba and North-west Territories	1,088,254

he above is exclusive of the quantity of fish consumed by the Indian population of ritish Columbia, which is estimated at over $3,000,000.

This total aggregate value of nearly *nineteen million dollars* is about the same as in 891. True, the Maritime Provinces' catch falls short of that of 1891 by over *one illion dollars*, but this is compensated by the unexpected increase in the yield of the land fisheries of the North-west Territories and Ontario. The Gulf division of Quebec the only deep-sea fishing province actually showing a surplus over the take of the evious year.

Men Employed—Capital Invested in the Fishing Industry.

To achieve the above result of fish production, no less than 63,678 men toiled over our extensive waters with fishing implements, etc., representing a capital of $7,647,835 now invested in the fishing industry of our country as follows :

About 1,000 schooners and steam-tugs of 37,200 aggregate tonnage, valued at over $2,000,000, were manned by 8,330 sailors, and 55,348 other fishermen using 30,500 boats, valued at over $1,000,000, fishing 4,500,000 fathoms of nets, worth $1,475,000, as well as other fishing gear, such as seines, pound and trap-nets, weirs, etc., etc.

The lobster fishing plant alone amounts to $1,284,821.

DETAILS.

The following table shows the relative value of the principal kinds of commercial fishes as well as the increase or decrease of each :—

Kinds of Fish.	Amount, 1892.	Increase over 1891.	Decrease from 1891.
	$ cts.	$ cts.	$ cts.
Cod	4,063,458	235,750	
Salmon	2,242,847		13,401
Herring	2,035,630		259,284
Lobsters	1,991,829		260,592
Whitefish	1,498,523	707,338	
Mackerel	1,346,977		622,594
Trout	711,112	49,769	
Seals	633,119		192,964
Haddock	586,524	60,929	
Hake	392,191	77,636	
Fish oil	359,904	1,236	
Halibut	275,207	59,738	
Smelts	235,958		41,077
Pike	224,253	161,422	
Pollack	222,882		20,862
Pickerel	188,573	54,443	
Alewives	168,179		25,850
Oysters	167,659		16,187
Sardines	118,213		74,723
Eels	103,161	9,760	
Shad	99,892	15,606	
Sturgeon	90,540	2,751	
Bass	48,333	374	
Squid	39,176	5,784	
Maskinongé	32,475		12,106

The above table shows at a glance which particular branch of the fishing industry prospered, remained stationary, or failed.

Whitefish indicates the most favourable fluctuation, having increased about 100 per cent. This extraordinary catch is chiefly from the North-west Territories, but may be better ascribed to fuller returns now received therefrom, than to a proportional increase of the species.

Cod, haddock and hake have yielded more than last year. The season was an open one, fishing being carried on in some localities till late in December.

A most striking decline of 33 per cent is noticed in the mackerel fishery, especially due to its non-appearance on the western coast of Nova Scotia.

The deficit of 3,600,000 cans in the output of British Columbia salmon, as compared with 1891, is nearly made up by the increased quantity sold fresh from other provinces.

Herring falls short of last year's catch by over a *quarter of a million dollars*. This may be attributed to the failure of the winter herring in New Brunswick side of Bay of Fundy.

The lobster yield is also $260,000 less than the previous one, which is doubtless due to the exhaustion of certain localities by over-fishing. One may judge of the magnitude of this

LOBSTER INDUSTRY.

by the fact that, last season, no less than 626 canneries were in operation on the littoral of our seas, using 768,479 traps and other plant valued at $1,284,821. The pack, though less than that of 1891, amounted to 12,524,498 lb. cans, besides 6,012 tons disposed of fresh or shipped alive, representing a drain of about 80,000,000 of these crustaceans from our waters during a single season.*

GENERAL REMARKS.

Nova Scotia.

A glance at the following table will show an unfavourable result in the last season's fishing operations, in the above-named province. As compared with the previous year, the yield of the fisheries of Nova Scotia shows a deficit of $670,576. This shortage occurs in the mackerel fishery, which has fallen off over $700,000 below the catch of 1891. The catch of lobsters also fell short of that of the previous year by over $150,000. Cod, haddock, pollack and hake fisheries all show slight improvement. The same might be said of the halibut and herring fisheries.

In district No. 1, comprising Cape Breton Island, the number of men engaged in the fishing industry is steadily diminishing, notwithstanding the natural facilities and advantages for the prosecution of deep-sea fishing, which are possessed by them. The opportunities offered of late years for employment at the coal mines or railway construction, etc., has doubtless deterred to a considerable extent the fishermen from embarking in the more venturesome and precarious calling of fishing. The yield in the county of Richmond which in 1891 showed the greatest diminution, this year shows to the best advantage. Mackerel, on the coasts of this district, proved abundant, the catch exceeding that of the previous year by 50 per cent. Cod, herring and lobsters all show a falling off as compared with the yield of 1891.

Induced by through railway communication which has been established with the United States, a new and promising industry is being inaugurated in the smelt fishery. In fact, Cape Breton could now easily develop a fresh fish trade during the winter months, with the principal American and Canadian cities.

It may be stated that in the central district a general decline of 17 per cent has occurred, largely attributable to the failure of the fall mackerel fishery in Halifax county. The cod family has yielded less by 24 per cent, when compared with the take of 1891. In dealing with this fishery, Inspector Hockin dwells at considerable length upon the spawning of the cod and other sea fishes, quoting several authorities thereon, which may be read with interest.

*This is based on allowing six lobsters to a can, and 2½ lbs. for average weight of shell lobsters.

In the western district a decrease of $347,000 is reported, ascribed solely to the failure of mackerel, the catch falling short of that of the previous year by over 40,000 barrels. This incident remains unexplained, and the fishery officers are unable to account for the fact, otherwise than by stating that mackerel did not visit their coast this season.

New Brunswick.

While the fisheries of this province last year showed a surplus of over $800,000, this season's catch reveals a decrease of $367,000. This is due to a falling off in smoked herring, sardines and smelts. The other kinds of fish held their own and rendered an average return.

In district No. 1 (Charlotte county coast) herring fishing proved almost a failure. The usual run of large winter herrings did not strike in the Bay of Fundy. Prices obtained for sardines and smoked herrings ruled very low.

The discrepancy in value for these articles alone exceeds a quarter of a million dollars when compared with the result in 1891. For that year the schedule prices were rather high, as the boxes of smoked herring were smaller than in other localities. However, this has been remedied this year by returning all the smoked fish in pounds instead of boxes. It is credibly stated by the officers that owing to the efficiency of the passes which have been placed in the St. George Falls, salmon are known to have ascended that stream for the first time, much to the gratification of settlers, who anticipate future benefits therefrom.

In district No. 2 (Northumberland Straits and Baie des Chaleurs) a slight improvement is noticeable in almost every variety of fish except smelts and lobsters. Owing to the unusually open season which prevented the ice from taking on the streams of the Miramichi district, the smelt bag-net fishery could not be prosecuted until a comparatively late date This resulted in a falling off in the yield of smelts alone exceeding three-quarters of a million pounds. It is gratifying to observe that mackerel are becoming more plentiful on this part of the coast, and it is to be hoped that the prohibition of purse-seines within the three mile-limit will materially assist in keeping up the supply. The quantity of oysters raked exceeds that of the preceding year. The winter prohibition came in good time, as much injury was being done to the already exhausted beds of Kent county by raking through the ice.

In the inland district, No. 3, the fishing operations resulted in about an average yield. A slight falling off of $20,000 in the total value is attributed to a less vigorous prosecution of the fisheries rather than to the scarcity of fish. Line fishermen appear to have met with poor success. There are indications of a steady increase in the number of salmon frequenting the upper streams. Doubtless this is due to the better protection afforded by vigilant guardians. The appearance of salmon in increasing numbers in the upper waters of the rivers invariably attracts pleasure seekers from whom considerable benefit is derived by the settlers from necessary assistance and other expenditure. Improvement is also reported in the trout supply.

Prince Edward Island.

The falling off in the yield of the fisheries of this province amounts to only $58,887 as compared with the total value of 1891. This decline is more than accounted for in the single item of lobsters, the pack of which is nearly one million cans short of that of

the preceding year, although still above the average, These crustaceans are steadily diminishing in size ; at times canneries were running with undersized fish. This, coupled with the unreasonable increase of traps, neutralized the good effect a short season might have had. Herring and mackerel were plentiful. Although the column in which the result of herring is indicated, shows a decrease of 50 per cent, the take of bait (principally herring) gives an increase of 150 per cent, as compared with the previous year. Besides these, several hundred barrels were supplied to United States and Canadian bankers for use as bait, which are not included in the returns at all. A remarkable feature in the increase of mackerel is that it was confined to certain parts of the coast, while in other sections in which this fish have formerly been found in great abundance were almost deserted. This is ascribed to excessive netting and purse-seining in the latter localities, which are now avoided by the fish, while no abuses have ever existed in the former. The prohibition of purse-seines within the three-mile limit was favourably received by all parties interested in the protection of this valuable industry.

The decline in the oyster fishery was counterbalanced by the increased prices obtained towards the end of the season. Richmond Bay possesses, without doubt, the richest oyster beds to be found around the Island. New areas are worked every year, and notwithstanding the incessant raking of this excellent bivalve, this bay, from its larger area, seems better able to withstand excessive operations than many smaller ones. Attention is called to the regretable destruction and waste of immature oysters which are refused by shippers and thrown away to rot, while they might have been saved to mature if returned to the water by the fishermen at the time of capture. Upon the completion of the examination of the oyster beds of the Maritime Provinces at present in progress, it is expected that regulations can be devised which among other things will obviate this evil.

Quebec.

The tables of this province show a gratifying increase of nearly a quarter of million dollars over those of last year, which in turn indicated a surplus in value of $400,000 over 1890. This satisfactory result is chiefly due to the open season experienced on the north shore of the Gulf division, affording a better opportunity for the prosecution of the fishing business ; cod, lobsters and mackerel especially making a good showing. As cod were plentiful and fishing began early and was continued far in December, it followed that the yield should be correspondingly large. In fact it proved to be the largest ever made in this division, reaching 245,000 cwts.

Commander Wakeham reports having seen a school of cod in Sheldrake Bay, extending over a mile to the shore. So dense was this solid mass of fish that a small boat could only with difficulty be rowed ashore. Attempts at sounding showed them to reach the bottom. Several instances of a similar nature, though of less extent, were reported from neighbouring quarters. The insignificance of a season's catch, as compared with such a mass of fish, is striking.

The greater portion of the mackerel fishing of this division is done at the Magdalen Islands. These fish, however, were observed in greater numbers in Bay des Chaleurs than for years past.

Lobsters are holding their own in size as well as in quantity. In fact since 1889 there has been a steady improvement. The output from the canneries exceeds that of the previous year by 167,000 cans.

The sealing fleet again failed to secure even an average catch. This failure cannot be ascribed to the scarcity of seals, as the Newfoundland sealers with steamers have always done fairly well. The Quebec fleet consists of small schooners not so well adapted to successful operations, not always being able to reach the seals. A special officer has been located at Long Point to protect the sedentary seal fisheries in that part of the Labrador coast.

Ontario.

The yield of the fisheries in this province exceeds the good catch of 1890, and shows a surplus value over 1891 of $235,800. This increase is noticed in almost every kind of fish, but specially in the staple fish of the great lakes, namely, whitefish, salmon, trout and herring.

In Lake Superior fishing was not prosecuted as extensively as usual, only forty-eight pound-nets being licensed, compared with seventy-four during the previous year. The contrary may be said of the North Channel, or Manitoulin Island division, where more tugs, more pound-nets and other fishing plant than usual were engaged in this valuable industry, producing a surplus value of nearly $100,000 over last year's yield.

In Georgian Bay, owing to the change of fishery officers during the fishing season, the returns are not as complete as usual, but are sufficient to show that the general result is about the same as in 1891.

In Lake Huron proper, notwithstanding the heavy gales experienced at the end of October, destroying many nets, etc., the yield is more than double that of the preceding season, salmon-trout especially showing an increase of nearly 300 per cent over 1891.

In Lake Erie the season's fishing operations are more satisfactory than last year. The catch of herring and pickerel was very large.

In Lake Ontario the figures show an aggregate of nearly twice the value of 1891, which is explained by the proper classification of Prince Edward county and other districts which were formerly returned separately.

Manitoba.

The slight increase noticeable in Manitoba, about $50,000, is ascribed mainly to the large catch of whitefish, amounting to nearly 800,000 lbs. As the close season for this fish was extended to 15th December, instead of the 1st, the winter catch was not quite up to the average.

The privilege of catching pickerel, pike, etc., during the close-season for whitefish, was well received by the settlers. Several nets were seized and destroyed, and guilty parties fined for fishing whitefish during close season.

Sturgeon also show a large increase over last year. Pickerel and pike were as plentiful as ever, but as the demand for them regulated the catch it was not large.

North-west Territories.

Although the returns from these vast Territories are still very incomplete, it is quite evident that the fishery protection service is being better organized. The extraordinary increase in the catch of fish must be more attributable to better supervision and more correct observations than to the abundance of fish.

Last year the total catch was under 2,000,000 lbs. of fish, valued at $86,785, while this year it is estimated at 19,836,800 lbs., valued at $793,549. Whitefish is the staple fish, of which the enormous and almost incredible catch of 11,435,000 lbs. is returned. In some localities, especially in the North Saskatchewan district, the Indian population live almost exclusively on these delicious fish, which Providence has placed at their disposal in the numerous lakes scattered in this vast territory. The daily ration to these Indian families is four fish to each man, two to each woman, one to each child and two to each dog.

The catch of pike is also enormous, exceeding 8,000,000 lbs. However large these estimates may appear, the inspector in charge states that care has been taken not to exceed the actual yield.

After the 15th December numerous samples of whitefish were examined and found not through spawing, proving that the extension of close seasons was a judicious step.

British Columbia.

The value of the fisheries of this province falls short of that of the preceding year by $159,271. As anticipated in the preliminary report, the quantity of salmon disposed of in a fresh state exceeded that of 1891 by 800,000 lbs., while the pack of the canners fell short by over 3,600,000 cans. This limited output is said to have been due more to a desire to regulate the supply than on account of any scarcity of fish. The season of 1892 was considered satisfactory for what is there termed an "off year," having turned out much better than the preceding periodical "off year" (1888).

As was to be expected in view of the Behring Sea *modus vivendi*, a decline in the number of fur-seals taken has occurred, due entirely to the prohibition of sealing in Behring Sea, and not to any diminution in the numbers of those valuable animals.

The other fisheries of British Columbia have yielded fairly well for the attention paid to them. Halibut especially shows an increase of over 200,000 lbs.

An incident worthy of note was the capture of several shad at River's Inlet and on the North Arm of the Fraser River. The inspector states that all the shad on the Pacific coast originated from the fry planted in Sacramento River, and he alludes to the incident to show a northward migration by these fish of over 1,000 miles.

GENERAL RECAPITULATION

Of the Yield and Value of the Fisheries in the Dominion of Canada, for the Years 1891 and 1892.

Kinds of Fish.		1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Cod	Cwt.	849,838	3,827,708 00	880,184	4,050,468 00
Herring, pickled	Brls.	298,598	1,343,693 00	300,223	1,351,005 00
do smoked	Lbs.	23,869,200	596,732 25	14,975,675	301,595 75
do frozen, fresh	"	9,108,650	354,489 00	9,748,240	383,029 60
Lobsters, preserved, in cans	"	14,285,157	1,999,921 04	12,524,498	1,753,429 30
do in shell, alive, &c.	Tons.	6,312½	252,500 00	6,012½	238,400 00
Salmon, pickled	Brls.	2,557	35,500 00	3,132	40,660 00
do fresh	Lbs.	4,404,311	671,746 10	5,430,749	791,600 70
do preserved, in cans	"	15,206,328	1,522,508 80	11,514,622	1,382,535 04
do smoked	"	132,472	26,494 40	140,258	28,051 60
Mackerel, preserved, in cans	"	165,981	19,917 76	136,330	16,359 60
do pickled	Brls.	139,261	1,949,654 00	95,044	1,330,618 00
Haddock	Cwt.	150,170	525,595 00	167,578	586,524 60
Hake	"	124,385	315,555 00	116,711	350,133 00
Pollack	"	81,248	243,744 00	74,294	222,882 00
Trout	Lbs.	6,287,643	628,763 80	6,933,819	692,042 40
do pickled	Brls.	3,258	32,580 00	1,907	19,070 00
Whitefish	Lbs.	11,763 841	791,185 40	23,776,763	1,498,523 42
Smelts	"	5,552,101	277,035 75	4,719,193	235,958 75
Sardines	Hogsheads	.....	192,936 50	.....	118,213 50
Oysters	Brls.	61,032	183,846 00	55,953	167,659 00
Hake sounds	Lbs.	86,075	64,554 75	84,117	42,058 50
Cod tongues and sounds	Brls.	1,278	11,443 00	1,299	12,990 00
Alewives	"	43,117	194,029 50	37,684	168,179 50
Shad, pickled	Brls.	8,428	84,286 46	9,989	99,892 44
Eels, pickled	"	4,284	42,840 00	4,891	48,910 00
do fresh	Lbs.	842,696	50,561 76	906,755	54,251 30
Halibut	"	2,719,697	215,469 00	3,430,809	275,207 50
Sturgeon	"	1,525,246	87,789 56	1,628,435	90,540 60
Maskinongé	"	743,030	44,581 80	541,250	32,475 00
Bass	"	799,324	47,959 44	805,560	48,333 40
Pickerel	"	2,990,679	134,130 07	3,893,190	188,573 57
Pike	"	1,811,357	62,831 98	9,682,570	224,253 83
Winninish	"	100,000	6,000 00	100,000	6,000 00
Tom cod or frost fish	"	.....	21,767 50	857,000	24,100 00
Flounders	"	126,575	6,328 75	200,000	10,010 00
Squid	Brls.	8,348	33,392 00	9,794	39,176 00
Oulachons	Lbs.	281,700	12,505 00	372,300	19,045 00
Clams	"	.....	16,024 20	.....	18,634 00
Fur-seal skins in British Columbia	No.	52,995	794,925 00	46,362	602,706 00
Hair do	"	25,962	31,158 75	25,671	30,413 75
Sea-otter skins	"	.....	.....	14	2,100 00
Porpoise skins	"	301	1,204 00	316	1,318 00
Fish oils	Galls.	834,347	358,668 20	836,699	359,904 20
Coarse and mixed fish	Brls.	39,113	171,076 03	.....	185,884 95
Mixed fish, British Columbia		.....	46,419 00	.....	50,046 00
Fish used as bait	Brls.	178,731	212,735 50	243,744	313,125 50
do manure	"	198,386	99,194 00	138,324	69,164 00
Guano	Tons.	770	19,250 00	2,774	37,475 00
Crabs	No.	.....	30,200 00	.....	30,000 00
Home consumption not included in return		.....	284,647 00	.....	296,644 00
Total		.....	18,977,878 05	.....	18,941,171 30

RECAPITULATION.

Provinces.	Value.		Decrease.	Increase.
	1891.	1892.		
	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia	7,011,300 53	6,340,724 01	670,576 52	
New Brunswick	3,571,050 70	3,203,922 00	367,128 70	
British Columbia	3,008,755 30	2,849,483 64	159,271 66	
Quebec	2,008,678 74	2,236,732 06		228,053 32
Ontario	1,806,389 68	2,042,198 53		235,808 85
Prince Edward Island	1,238,733 81	1,179,856 68	58,877 13	
Manitoba and North-west Territories	332,969 29	1,088,254 38		755,285 09
Totals	18,977,878 05	18,941,171 30	1,255,854 01	1,219,147 26
Decrease			36,706 75	

COMPARATIVE STATEMENT

Of Production in each Branch of the Fisheries in the respective Provinces of the Dominion of Canada, 1891 and 1892.

PROVINCE OF NOVA SCOTIA.

Kinds of Fish.		1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Salmon	Brls.	716	11,456 00	320	5,120 00
do fresh	Lbs.	358,697	71,739 80	400,996	80,199 00
do smoked	"	9,142	1,828 40	3,308	661 60
do preserved	Cans.	10,600	1,590 00	2,590	388 00
Mackerel	Brls.	99,877	1,398,278 00	49,601	694,416 00
do preserved	Cans.	11,800	1,416 00	.....	.....
Herring	Brls.	131,335	591,009 50	155,529	699,882 00
do	Boxes.	122,850	30,712 50	Lbs.278,300	5,902 00
Alewives	Brls.	19,770	80,966 50	15,592	70,165 50
do smoked	No.	120,100	960 00	50,000	400 00
Cod, dried	Cwt.	545,977	2,456,899 00	559,054	2,515,746 00
Cod tongues and sounds	Brls.	942	8,083 00	1,066	10,660 00
Haddock	Cwt.	121,721	426,023 50	126,296	442,036 00
do fresh	Lbs.	740,000	14,800 00	40,000	8,000 00
do smoked	Cases.	10,030	26,472 00	16,084	38,601 60
do preserved	"	.....	.....	1,264	6,320 00
Pollack	Cwt.	56,866	170,598 00	58,015	174,045 00
Hake	"	55,487	166,461 00	55,550	166,650 00
do sounds	Lbs.	28,700	21,523 50	35,846	17,923 00
Halibut	"	1,120,641	112,063 40	1,560,534	156,055 01
Shad	Brls.	2,130	21,300 00	2,755	27,550 00
Bass	Lbs.	7,600	456 00	16,370	982 00
Trout	"	198,180	19,817 50	152,450	15,245 50
Squid	Brls.	8,286	33,144 00	9,503	38,012 00
Smelts	Lbs.	432,341	21,616 75	338,225	16,910 35
Eels	Brls.	2,335	23,350 00	2,627	26,270 00
Frost fish	"	150	1,500 00	200	2,000 00
Scallops	Doz.	400	200 00	350	175 00
Oysters	Brls.	4,318	12,954 00	3,776	11,328 00
Whitefish	Lbs.	.....	.....	1,000	100 00
Clams	.....	.....	980 00	.....	309 00
Lobsters, preserved	Cans.	6,323,628	885,306 98	5,372,672	752,173 66
do shipped fresh, alive, &c.	Tons.	5,390½	215,620 00	4,880	193,100 00
Fish oils	Galls.	253,182	101,272 20	225,197	90,078 80
Guano	Tons.	383	9,575 00	283	7,075 00
Fish used as bait	Brls.	61,969	49,352 50	64,629	55,803 00
do manure	"	27,949	13,975 50	20,880	10,441 00
Total		.....	7,011,300 53	.....	6,340,724 01
Decrease in 1892		.....	.....	.....	670,576 52

COMPARATIVE STATEMENT of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF NEW BRUNSWICK.

Kinds of Fish.		1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Cod	Cwt.	86,850	390,825 00	74,547	335,461 50
Herring	Brls.	90,933	409,198 50	95,040	427,680 00
do smoked	Lbs.	22,477,350	561,933 75	14,641,000	292,820 00
do frozen	No.	1,000,000	7,500 00	440,000	3,300 00
Mackerel	Brls.	17,379	243,306 00	18,725	262,150 00
do preserved, in cans	Lbs.	91,808	11,016 96	128,810	15,457 20
do fresh	Hogsheads.	242	1,936 00	.....	.....
Haddock	Cwt.	13,892	48,622 00	16,433	57,515 50
Pollack	"	24,382	73,146 00	16,279	48,837 00
Hake	"	40,383	121,149 00	37,615	112,845 00
Finnan haddies, in cans	Lbs.	20,000	2,400 00	.....	.....
Halibut	"	382,275	38,227 50	385,530	38,553 00
Salmon, pickled	Brls.	.....	.....	58	928 00
do fresh, in ice	Lbs.	1,317,420	263,484 00	1,405,170	281,034 00
do preserved, in cans	"	25,720	3,858 00	23,440	3,516 00
do smoked	"	2,030	406 00	1,450	290 00
Alewives	Brls.	22,404	100,818 00	21,155	95,197 50
Trout	Lbs.	109,928	10,992 80	109,760	10,976 00
Smelts	"	4,674,532	233,726 60	3,914,860	195,743 00
Shad	Brls.	5,957	59,570 00	6,518	65,180 00
Eels	"	1,070	10,700 00	1,370	13,700 00
Sardines	Hogsheads.	33,615	151,267 50	22,055	99,247 50
do in cans	Cases.	8,333	20,000 00	cans 150,000	6,000 00
Bass	Lbs.	26,009	1,560 54	55,870	3,352 20
Pickerel	"	125,000	6,250 00	118,000	5,900 00
Perch	"	15,020	450 60	16,300	489 00
Sturgeon	"	250	25 00	.....	.....
Oysters	Brls.	14,934	44,802 00	17,840	53,520 00
Lobsters, preserved	Cans.	3,330,120	466,216 80	3,204,320	448,604 80
do	Tons.	922	36,880 00	1,132½	45,300 00
Cod tongues and sounds	Brls.	106	1,060 00	109	1,090 00
Hake sounds	Lbs.	42,300	31,725 00	41,615	20,807 50
Fish oils	Galls.	64,471	25,788 40	80,897	32,358 80
Fish guano	Tons.	387	9,675 00	351	8,775 00
Fish used as manure	Brls.	36,307	18,153 50	44,247	22,123 50
do bait	"	60,664	79,236 00	58,540	77,760 00
Squid	"	62	248 00	291	1,164 00
Frost fish	Lbs.	255,350	12,767 50	292,000	14,600 00
Flounders	"	126,575	6,328 75	200,000	10,010 00
Clams	Brls.	300	1,800 00	.....	8,700 00
Fish used in district No. 1, not included above		.....	64,000 00	.....	82,936 00
Total		.....	3,571,050 70	.....	3,203,922 00
Decrease in 1892		.....	.....	.....	367,128 70

COMPARATIVE STATEMENT of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF PRINCE EDWARD ISLAND.

Kinds of Fish.		1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Cod	Cwt.	14,520	65,340 00	19,402	87,309 00
Herring	Brls.	40,468	182,106 00	20,902	94,059 00
Mackerel	"	17,487	244,818 00	21,901	306,614 00
do preserved	Cans.	46,240	5,548 80	7,521	902 40
Haddock	Cwt.	842	2,947 00	8,621	30,173 50
Hake	"	8,515	25,545 00	23,546	70,638 00
Salmon	Lbs.	3,624	693 60	11,980	1,098 00
Alewives	Brls.	730	3,285 00	537	2,416 50
Halibut	Lbs.	6,000	600 00	2,300	230 00
Trout	"	39,200	3,920 00	34,450	3,445 00
Smelts	"	285,200	13,691 00	196,900	9,845 00
Eels	Brls.	830	8,300 00	894	8,940 00
Oysters	"	41,030	123,090 00	32,937	98,811 00
Lobsters, preserved, in cans	Lbs.	3,670,414	513,857 96	2,819,572	394,740 08
Cod sounds	Brls.	.....	110 00	.....	.....
Fish oils	Galls.	13,388	5,335 20	11,403	4,561 20
Manure	Brls.	22,010	11,005 00	21,250	21,250 00
Bait	"	11,470	17,205 00	27,664	41,496 00
Shad	"	3	30 00	.....	.....
Hake sounds	Lbs.	15,075	11,306 25	6,656	3,328 00
Total		.....	1,238,733 81	.....	1,179,856 68
Decrease in 1892		.....	.....	.....	58,877 13

COMPARATIVE STATEMENT of Production in each Branch of Fisheries, &c.—*Continued.*

PROVINCE OF QUEBEC.

Kinds of Fish.		1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Cod	Cwt.	201,622	907,299 00	245,209	1,103,276 50
Herring, pickled	Brls.	31,637	142,366 50	25,061	112,774 50
do smoked	Lbs.	33,000	330 00	lbs. 35,375	353 75
Mackerel	Brls.	4,518	63,252 00	4,817	67,438 00
Haddock	Cwt.	1,923	6,730 50	1,108	3,878 00
Halibut	Lbs.	80,781	8,078 10	124,945	12,494 50
Salmon, pickled	Brls.	488	7,808 00	396	6,336 00
do fresh	Lbs.	633,717	126,743 40	679,094	135,818 80
Shad	"	56,441	3,386 46	119,374	7,162 44
Eels	"	789,701	47,382 06	830,705	49,688 30
do pickled	Brls.	49	490 00	.....	.....
Sardines	"	7,223	21,669 00	4,322	12,966 00
Sturgeon	Lbs.	269,001	16,140 06	213,342	12,809 40
Trout	"	427,350	42,735 00	422,250	40,885 00
do	Brls.	85	850 00	.....	.....
Winninish	Lbs.	100,000	6,000 00	100,000	6,000 00
Whitefish	"	115,562	9,244 96	143,262	11,460 96
Maskinongé	"	87,535	5,252 10	52,456	3,147 00
Bass	"	114,370	6,862 20	97,130	5,827 80
Pickerel	"	251,601	12,580 05	201,175	10,058 75
Pike	"	284,710	14,235 50	213,645	10,682 25
Tom cod	Bush.	15,000	7,500 00	15,000	7,500 00
Cod tongues and sounds	Brls.	219	2,190 00	124	1,240 00
Lobsters, canned	Lbs.	960,995	134,539 30	1,127,934	157,910 76
Small and mixed fish	Brls.	16,597	68,799 00	14,286	58,137 00
Seal skins	No.	20,787	25,983 75	18,971	23,713 75
Porpoise skins	"	301	1,204 00	316	1,318 00
Fish oils	Galls.	253,806	101,522 40	259,648	103,859 20
Fish used as bait	Brls.	44,628	66,942 00	92,711	139,066 50
do manure	"	112,120	56,060 00	73,197	36,599 50
Smelts	Lbs.	79,028	3,951 40	112,608	5,630 40
Fish used as local consumption	Brls.	22,688	90,752 00	22,176	88,708 00
Total		.....	2,008,678 74	.....	2,236,732 06
Increase in 1892		.....	.....	.....	228,053 32

COMPARATIVE STATEMENT of Production in each branch of Fisheries, &c.—*Continued.*

PROVINCE OF ONTARIO.

Kinds of Fish.		1891. Quantity.	1891. Value. $ cts.	1892. Quantity.	1892. Value. $ cts.
Whitefish	Brls.	2,061	20,610 00	1,030	10,300 00
do	Lbs.	6,073,844	485,907 52	7,637,396	610,991 68
Salmon-trout	Brls.	3,173	31,730 00	1,907	19,070 00
do	Lbs.	5,449,385	544,938 50	6,146,859	614,685 90
Herring	Brls.	4,225	19,012 50	3,546	15,957 00
do	Lbs.	8,233,250	329,330 00	8,918,240	356,729 60
Maskinongé	"	655,495	39,329 70	488,800	29,328 00
Bass	"	651,345	39,080 70	636,190	38,171 40
Pickerel	"	1,993,323	99,666 15	2,973,422	148,671 10
Pike	"	602,118	30,105 90	806,436	40,321 80
Sturgeon	"	882,475	52,948 50	767,187	46,031 10
Eels	"	52,995	3,179 70	76,050	4,563 00
Coarse fish	"	2,688,517	80,655 51	3,579,265	107,377 95
Fish for home consumption	"	996,500	29,895 00	.....	.....
Total		.....	1,806,389 68	.....	2,042,198 53
Increase in 1892		.....	.....	.....	235,808 85

MANITOBA AND NORTH-WEST TERRITORIES.

Whitefish	Lbs.	5,162,235	275,422 92	15,789,105	865,670 78
Pickerel (doré)	"	620,755	15,633 87	600,593	23,943 72
Pike (jackfish)	"	924,529	18,490 58	8,662,489	173,249 78
Sturgeon	"	49,020	2,451 00	127,410	5,684 10
Tullibee	"	246,240	5,574 80	171,800	3,536 00
Mixed fish	"	1,539,612	15,396 12	1,617,000	16,170 00
Total		.....	332,969 29	.....	1,088,254 38
Increase in 1892		.....	.....	.....	755,285 09

COMPARATIVE STATEMENT of Production in each Branch of Fisheries, &c.—*Concluded.*

PROVINCE OF BRITISH COLUMBIA.

Kinds of Fish.		1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
			$ cts.		$ cts.
Salmon	Brls.	1,353	16,236 00	2,348	28,176 00
do fresh	Lbs.	2,090,853	209,085 30	2,935,509	293,550 90
do preserved, in cans	"	15,170,608	1,517,060 80	11,488,592	1,378,631 04
do smoked	"	121,300	24,260 00	135,500	27,100 00
Herring, fresh and salted	"	375,400	17,659 00	489,000	23,652 50
do smoked	"	31,300	3,756 00	21,000	2,520 00
Trout, fresh	"	63,600	6,360 00	68,050	6,805 00
Sturgeon	"	324,500	16,225 00	520,500	26,025 00
Halibut, fresh	"	1,130,000	56,500 00	1,357,500	67,875 00
Skill, salted	Brls.	137	1,644 00	95	1,140 00
Clams	Sacks.	5,560	9,625 00	5,500	9,625 00
do canned	Lbs.	30,160	3,619 20	.....	.....
Mussels	Sacks.	300	525 00	300	525 00
Oysters	"	1,500	3,000 00	2,000	4,000 00
Oulachons, pickled	Brls.	1,025	8,200 00	875	7,000 00
do smoked	Lbs.	4,700	705 00	21,800	3,270 00
do fresh	"	72,000	3,600 00	175,500	8,770 00
Fur-seal skins	No.	52,995	794,925 00	46,362	602,706 00
Hair do	"	5,175	5,175 00	6,700	6,700 00
Sea-otter skins	"	.....	.....	14	2,100 00
Fish oils	Galls.	249,500	124,750 00	259,554	129,046 20
Crabs	No.	.....	30,200 00	600,000	30,000 00
Smelts, fresh	Lbs.	81,000	4,050 00	156,600	7,830 00
Assorted or mixed fish	"	411,500	20,575 00	430,320	21,516 00
Rock cod	"	146,900	7,345 00	173,500	8,675 00
Tooshqua, fresh	"	449,500	22,475 00	416,300	20,815 00
Fish products	.....	.....	1,200 00	.....	6,425 00
Fish for home consumption, Chinese labourers not included above	Lbs.	.....	100,000 00	.....	125,000 00
Total		.....	3,008,755 30	.....	2,849,483 64
Decrease in 1892		.....	.....	.....	159,271 66

RECAPITULATION

Showing the Number, Tonnage and Value of Vessels and Boats; Value of all Fishing Material, &c., and Number of Fishermen in the Dominion of Canada, 1892.

Provinces.	Fishermen.		Vessels.			Boats.		Gill Nets and Seines.		Value of Pound Nets, Trap Nets, Weirs, &c.	Value of Lobster Plant.	Approximate Value of Freezers, Smoke-houses and other Fixtures not itemized.	Total Value.
	Vessels.	Boats.	Number.	Tonnage.	Value.	Number.	Value.	Fathoms.	Value.				
					$		$		$	$	$	$	$
Nova Scotia	5,421	18,649	547	25,121	1,100,620	13,518	315,428	2,152,998	464,541	104,630	455,949	154,740	2,595,908
New Brunswick	579	11,686	142	2,355	77,510	5,937	254,379	455,783	289,131	178,493	336,742	267,395	1,403,650
Prince Edward Island	257	4,763	40	1,329	26,790	1,859	63,406	96,012	41,650	750	408,130	.....	540,726
Quebec	205	10,489	32	1,027	27,595	6,003	181,157	241,954	161,038	74,825	84,000	.....	528,615
Ontario	361	2,348	*77	1,926	188,210	1,032	125,553	1,238,907	280,625	118,416	.....	.....	712,804
British Columbia	†1,472	6,698	143	5,254	656,150	1,766	91,365	293,763	225,962	13,875	.....	819,000	1,806,352
Manitoba	35	715	*7	193	36,000	398	10,684	96,644	12,096	1,000	.....	.....	59,780
	8,330	55,348											
Totals	.....	63,678	988	37,205	2,112,875	30,513	1,041,972	4,576,066	1,475,043	491,989	1,284,821	1,241,135	7,647,835

* Tug.
† Including seal hunters.
Note.—For further details see pages 57, 89, 98, 139, 163, 188.

RECAPITULATION.

TABLE showing the Total Value of the Fisheries in the respective Provinces of Canada, from 1870 to 1892, inclusive, as compiled from the Annual Reports of the Department of Fisheries.

Years.	Nova Scotia.	New Brunswick.	Prince Edward Island.	Quebec.	Ontario.	British Columbia.	Manitoba and North-west Territories.	Total for Canada.
	$	$	$	$	$	$	$	$
1870	4,019,425	1,131,433	No data	1,161,551	264,982	No data	No data	6,577,391
1871	5,101,030	1,185,033	do	1,093,612	193,524	do	do	7,573,199
1872	6,016,835	1,965,459	do	1,320,189	267,633	do	do	9,570,116
1873	6,577,087	2,285,662	207,595	1,391,564	293,091	do	do	10,754,997
1874	6,652,302	2,685,794	288,863	1,608,660	446,267	do	do	11,681,886
1875	5,573,851	2,427,654	298,927	1,596,759	453,194	do	do	10,350,385
1876	6,029,050	1,953,389	493,967	2,097,668	437,229	104,697	do	11,117,000
1877	5,527,858	2,133,237	763,036	2,560,147	438,223	583,433	do	12,005,934
1878	6,131,600	2,305,790	840.344	2,664,055	348,122	925,767	do	13,295,678
1879	5,752,937	2,554,722	1,402,301	2,820,395	367,133	631,766	do	13,529,254
1880	6,291,061	2,744,447	1,675,089	2,631,556	444,491	713,335	do	14,499,979
1881	6,214,782	2,930,904	1,955,290	2,751,962	509,903	1,454,321	do	15,817,162
1882	7,131,418	3,192,339	1,855,687	1,976,516	825,457	1,842,675	do	16,824,092
1883	7,689,374	3,185,674	1,272,468	2,138,997	1,027,033	1,644,646	do	16,958,192
1884	8,763,779	3,730,454	1,085,619	1,694,561	1,133,724	1,358,267	do	17,766,404
1885	8,283,922	4,005,431	1,293,430	1,719,460	1,342,692	1,078,038	do	17,722,973
1886	8,415,362	4,180,227	1,141,991	1,741,382	1,435,998	1,557,348	186,980	18,679,288
1887	8,379,782	3,559,507	1,037,426	1,773,567	1,531,850	1,974,887	129,084	18,386,103
1888	7,817,030	2,941,863	876,862	1,860,012	1,839,869	1,902,195	180,677	17,418,510
1889	6,346,722	3,067,039	886,430	1,876,194	1,963,123	3,348,067	167,679	17,655,256
1890	6,636,444	2,699,055	1,041,109	1,615,119	2,009,637	3,481,432	232,104	17,714,902
1891	7,011,300	3,571,050	1,238,733	2,008,678	1,806,389	3,008,755	332,969	18,977,878
1892	6,340,724	3,203,922	1,179,856	2,236,732	2,042,198	2,849,483	1,088,254	18,941,171
Totals	152,703,675	63,640,085	20,836,623	44,239,336	21,421,762	28,479,112	2,317,747	333,733,658

COMPARATIVE TABLE, showing Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries of Canada, together with the Value of Fishing Materials employed, from 1879 to 1892.

Years.	Vessels.			Boats.		Value of Nets and Seines.	Value of other Fishing Material.	Total of Capital Invested.
	No.	Tonnage.	Value.	No.	Value.			
			$		$	$	$	$
1879	1,183	43,873	1,714,917	25,616	854,289	988,698	456,617	4,014,521
1880	1,181	45,323	1,814,688	25,266	716,352	985,978	419,564	3,936,582
1881	1,120	48,389	1,765,870	26,108	696,710	970,617	679,852	4,113,049
1882	1,140	42,845	1,749,717	26,477	833,137	1,351,193	823,938	4,757,985
1883	1,198	48,106	2,023,045	25,825	783,186	1,243,366	1,070,930	5,120,527
1884	1,182	42,747	1,866,711	24,287	741,727	1,191,579	1,224,646	5,014,663
1885	1,177	48,728	2,021,633	28,472	852,257	1,219,284	2,604,285	6,697,459
1886	1,113	44,605	1,980,411	28,187	850,545	1,263,152	2,720,187	6,814,295
1887	1,168	44,485	1,989,840	28,092	875,316	1,499,328	2,384,356	6,748,840
1888	1,137	43,247	2,017,558	27,384	859,953	1,594,992	2,390,502	6,863,005
1889	1,100	44,936	2,064,918	29,555	965,010	1,591,085	2,149,138	6,770,151
1890	1,069	43,084	2,152,790	29,803	924,346	1,695,358	2,600,147	7,372,641
1891	1,027	39,377	2,125,355	30,438	1,007,815	1,644,892	2,598,124	7,376,186
1892	988	37,205	2,112,875	30,513	1,041,972	1,475,043	3,017,945	7,647,835

COMPARATIVE TABLE showing the Number of Men employed in the Fishing Industry in Vessels and Boats since the Year 1879 to 1892.

Years.	Number of Men in Vessels.	Number of Men in Boats.	Total Number of Fishermen.
1879	8,818	52,577	61,395
1880	8,757	51,900	60,657
1881	8,359	50,679	59,056
1882	8,498	52,785	61,283
1883	9,966	52,259	62,225
1884	9,968	51,854	61,822
1885	9,539	53,282	62,821
1886	8,927	53,073	62,000
1887	8,911	55,247	64,158
1888	9,574	53,109	62,683
1889	9,621	55,382	65,003
1890	8,726	55,000	63,726
1891	8,666	56,909	65,575
1892	8,339	55,348	63,678

SAWDUST AND THE POLLUTION OF STREAMS.

The subject of dealing with sawdust, allowed by mill-owners to pass into streams, has been dealt with very fully in previous reports issued by this department. The introductory part of the annual report of the Department of Fisheries for 1889 contains a summary of the action taken by the department previous to the date of its publication. Reference is also made to the recommendations of the Select Committee, appointed by order of the Senate, "to inquire and report upon the extent and effect on the Ottawa River of the deposit therein of sawdust and other refuse." The rivers in Canada exempted from the enforcement of the law under the provisions of Chapter 91, Revised Statutes of Canada, intituled: "An Act respecting the protection of navigable rivers," are there mentioned. A special report by Mr. Samuel Wilmot, Superintendent of Fish Culture, on the effect of sawdust in the Otonabee River, and the action of mill-owners, is also published in the annual report of 1889.

The annual report of 1890 contains a memorandum on pollution of streams and diagrams of contrivances adopted for the disposal of sawdust and mill refuse. It is not deemed necessary at present to reproduce the articles and reports above alluded to, but merely to call attention to the fact that they give valuable information as to the effect of sawdust deposits in navigable and other streams.

It is no longer an open question as to the baneful effects of sawdust upon the fisheries of Canada, both in inland streams and rivers which empty into the sea. It has also been stated and supported by considerable evidence that the coastal fisheries are more or less affected by the depletion of the streams which flow into the salt water. Alewives, salmon and trout which visit fresh water streams to spawn, instinctively turn aside and pass the streams which have been made foul by sawdust deposits that have become partly decomposed. It may be considered somewhat trite to say that fish need clean beds of sand and gravel for spawning, but from the frequent repetition of statements made by mill-owners, to the effect that sawdust is not injurious, it seems necessary to assert again and again, that salmon, trout and other fish which enter fresh water streams require a clean bottom. When these fish do not find the streams in such a condition as their natural instinct requires, they refuse to enter the polluted waters, and seek other places for the deposit of their spawn. The effect of this is to drive the fish away from fishing grounds which have been fruitful in their returns to fishermen. It also operates, particularly in the case of alewives, which form a large part of the food of the cod family, halibut and other fish, in the direction of driving these fish from grounds well known as good fishing localities, to seek their food elsewhere. In consequence of this, fishermen who have prepared outfits and who have proceeded to the fishing grounds formerly resorted to by them are disappointed, and in many cases have to prosecute their calling at a greater distance from home, and consequently at greater expense.

It may be said that the fisheries fluctuate from year to year, and that shoals of herring and great numbers of codfish may be found at times on parts of the coast that have not been visited by these fish for a number of years previously. While this may be true, yet it is a well known fact that the salmon family and alewives return to the streams in which they were spawned. In thus following their habit they attract the larger fishes to the coastal waters. But if the streams visited by anadromous fish become polluted and as a consequence these fish abandon their old spawning grounds, it follows that the sea-fish will pursue them to other coasts where the streams emptying into the sea, afford good spawning beds.

Enough has been stated in previous reports to show the effects of sawdust and other pollutions upon the coastal fishing of the Dominion. It is a self-evident fact that the natural condition of the spawning beds for anadromous fish should be maintained as far as possible by preventing the throwing of offensive matter in the water and by allowing the fish free access, where dams are constructed, by fish-ways, or, if possible, by their natural course.

THE EFFECT OF SAWDUST.

Sawdust affects streams visited by migratory fish by causing the spawning beds to become offensive by the slimy nature of the water-soaked sawdust which prevents the ova from being deposited in secure places. Gas is generated in deep deposits of sawdust and mill refuse, which frequently causes explosions and upheavals as is the case, for instance, in the Ottawa River, where immense quantities of sawdust have been allowed to fall into the river in the past. It has also been observed from time to time, that vegetation which induces insect life and upon which the young fish feed, is destroyed by deposits of sawdust in localities where reeds and weeds have been known in former years to make rank growth. In addition to this, salmon ova have been found diseased with particles of sawdust adhering to them. In many places trout and salmon have

been found dead with sawdust in their gills, plainly indicating that this foreign matter which is of a harsh and irritating nature has been breathed in, thereby causing death.

The decaying matter in navigable streams where sawdust has been allowed to accumulate in large quantities, is frequently stirred up by passing tugs and steamers. This, of course, makes the water turbid and offensive to fish-life and thereby has the effect of causing fish seeking spawning grounds, to turn back from the polluted waters.

The main cause of the pollution of the streams of Canada is contamination with the sawdust and refuse of lumber mills. In this article it is intended to point mainly to the necessity for some action in the direction of stopping the present practice followed by many mill-owners of discharging sawdust into the rivers, but the effect of the pollution of streams whether from sawdust or any other deleterious substances is the same. In Great Britain where the question has for centuries occupied the attention of the authorities, the injurious results of poisoning the streams has been very marked.

"The state of the Thames River within the boundaries of London has since the 'beginning of the present century excluded salmonids entirely from the river, but "every season salmon and grilse are taken in or near the Thames estuary and there is 'no doubt that if the water could again be rendered moderately clear and if fish-ways 'were provided at the impassable weirs, the upper waters of the Thames would again 'be frequented by salmon and trout."

The following extract from the report of Dr. James A. Henshall, read at the annual meeting of the American Fishery Society bears, upon this point :—

"If a stream that is known to have failed in its fish supply is polluted by the refuse of mills and factories on its banks, it is useless to attempt to restore its fish-life by the introduction of a fresh supply so long as the poisonous emanations continue. Even if the water is not poisoned to such an extent as to cause the death of the fishes, it is fatal to nearly all ordinary fish food, which amounts to the same thing.

"This is a matter that is not often thought of, but it is a very vital one, nevertheless, and one that lies at the very root of the cause of the decline of fishes in our inland streams. To destroy the food of fishes is to destroy the fishes themselves, or compel them to evacuate streams thus depleted of food for more favourable locations if possible.

"The refuse from manufactories of all kinds, as saw-mills, distilleries, paper-mills, pulp-mills, starch factories, oil refineries, etc., usually found on the banks of streams, should be required by law to be run into pits and converted into fertilizers or other products, or burned, or otherwise disposed of. In most cases such a law would be a blessing in disguise to the manufacturer, for the refuse or offal could be made a source of profit, as is now being proved in several instances in various parts of the country."

"The penalties for violating these laws should be so severe as to cause a due respect for the same ; but above and beyond everything else the pollution of the streams should be prevented."

LAWS IN CANADA AND UNITED STATES TO PREVENT THE POLLUTION OF STREAMS.

Chapter 91, "An Act respecting the protection of navigable waters," section 7 :—

"No owner or tenant of any saw-mill or any workman therein or other person shall throw or cause to be thrown or suffer or permit to be thrown, any sawdust, edgings, slabs, bark or rubbish of any description whatsoever, into any river, stream or other water, any part of which is navigable or which flows into any navigable water ; and every person who violates the provisions of this section shall, on summary conviction, be liable, for a first offence, to a penalty of not less than twenty dollars, and for each subsequent offence, to a penalty of not less than fifty dollars.

"The several fishery officers shall, from time to time, examine and report on the condition of such rivers, streams and waters, and prosecute all persons violating the provisions of this section ; and for enforcing the said provisions, such officers shall have and exercise all the powers conferred upon them for like purposes by the Fisheries Act.

"The Governor in Council, when it is shown to his satisfaction that the public interest would not be injuriously affected thereby may, from time to time, by proclamation published in the *Canada Gazette*, declare any such river, stream or water, or part or parts thereof, exempted from the operations of this section in whole or in part, and may, from time to time, revoke such proclamation."

In the United States, nearly all the New England States have laws prohibiting the pollution of streams by sawdust, mill refuse, etc. In Maine and New Hampshire, the laws on this matter are regulated and enforced by the health officers. The game laws and health laws of Massachusetts and Connecticut, provide penalties for throwing refuse and sawdust into the rivers and streams. New York and South Carolina also, have laws prohibiting the contamination of streams by sawdust. But the most stringent enactments against the pollution of streams are to be found in some of the Western States, namely, Washington, Wyoming, Oregon, Michigan, Minnesota, California, Colorado and Nevada, well known lumbering states. The following extract from the Biennial Report of the Fish Commissioner of the State of Nevada plainly shows that effective laws are being enforced in that state :—

SAWDUST IN THE TRUCKEE RIVER.

"In my last biennial report I prominently set forth the abuses by California lumbermen, of depositing sawdust in the Truckee River. Through the efforts of the new California Fish Commission, actuated by a desire to aid Nevada, I am happy to report the abandonment of the pernicious practice of polluting this river with debris from the various saw-mills located along the banks. Through this new Commission my many protests and complaints at last found a successful hearing.

"The report of their Commission on this subject by Chief Deputy John P. Babcock, is as follows :—

"Hon. GEORGE T. MILLS, Carson City, Nevada.

"MY DEAR SIR,—In reply to your letter regarding the condition of affairs on the California end of the Truckee River, let me state that the Commission have had the river well in hand all the season. There are no mills on the river that dump their sawdust into the stream. The Truckee Lumber Company are dumping their shavings from the factory into the river and we have protested vigorously against their doing so, and have perfected plans that will put a stop to it before next season, we hope.

"Richardson's mills and factory at Truckee are in excellent order ; they burn all their dust and shavings. The Boca Milling Company are running their sawdust into a bulkhead and no sawdust reaches the river from their mill at present. The Pacific Wood and Lumber Company's mill at Burkhalters Station has the finest sawdust conveyor I have ever seen. The mills of Prosser Creek, Cold Stream, and the other streams tributary to the Truckee River are all in good order so far as sawdust is concerned. I am told that the river is in better shape in California than for a number of years. The Commission have done and will continue to do all they can to see that sawdust is kept from the stream, and when we can prevent the dumping of shavings from factories into the river we will be satisfied with the situation. We are very anxious that all the dams in this river may be kept open and free for the passage of fish during the early spring, that the parent fish may have easy access to our waters during the spawning season The Commission have planted 50,000 rainbow trout in the Truckee River during the season just closed."

ESTIMATE OF SAWDUST MADE BY A MILL OF ONE MILLION FEET OUTPUT YEARLY.

The amount of sawdust deposited in a stream from a mill with an output of a million feet of lumber a year has been estimated by Mr. John W. Titcomb, and published in a letter to the *Sawdust Gazette*, of Burlington, Vermont:—

"Let us, for example, take a small trout stream with one saw-mill in it. The output of the average mill is 1,000,000 feet of lumber. About one-sixth of the output is waste, making the entire output 1,200,00), of which 200,000 feet is sawdust and refuse. 1,000 feet in round numbers make a cord, so that the 200,000 feet is equal to about 200 cords. If the latter were condensed into one continuous bar 4 feet wide and 4 feet high, it would be 1,600 feet or more than a quarter of a mile long. Multiply this by the number of mills on some of our streams, many of them sawing two or three times as much lumber, and we have several miles of sawdust, enough to entirely choke up the average brook if poured into it at one time. I give these figures to show the amount of sawdust trout must contend with. We know that trout will exist in all mill-ponds, but it will be noticed that they are always in the running water where the supply is constantly renewed."

INLAND STREAMS.

The same reasons given for the enforcement of the law on waters that flow to the sea, apply for the enforcement of the statute in inland waters. Mr. Charles Wilmot, Inspector of Fisheries and Fish Hatcheries for Canada, in a special report upon the Châteauguay River and its tributaries in the province of Quebec, refers in the following language to the evil effects of sawdust upon fish life:—

"Every one who is acquainted with the habits of fish which frequent dull sluggish streams, such as the Châteauguay and English rivers, viz.:—Pickerel, pike, maskinongé, and suckers, knows that they are spring spawning fish; they therefore seek their spawning grounds during high water and can go up these rivers as far as shown. These fish are to be found above all the dams on the Châteauguay and English rivers as well as below them, and until they are killed and destroyed by sawdust, and by every other unfair means that man could resort to during spawning seasons, they were quite numerous along the whole course of these streams. Even new, fairly good sport is to be had in some localities where sawdust has not injured the feeding and spawning grounds.

"Bass also frequent these rivers. Some years ago they were quite plentiful, but they are very scarce now. * * *

"Until lately sawdust and mill rubbish was thrown into the Châteauguay and English rivers from every saw-mill along the streams. Since fines were imposed the rivers have been moderately free of it."

Considerable difficulty has been experienced in the efforts to keep the spawning beds of the St. John River, in New Brunswick, clear of mill rubbish. Whilst it is possible to enforce the law in New Brunswick, the efforts of the Department of Marine and Fisheries are neutralized, to a large extent, by the great quantities of sawdust and mill refuse discharged into that part of the river which flows from the State of Maine. Mr. Wilmot, Inspector of Fisheries, reported in 1892, as follows;—

"I beg to say, for over one hundred miles above Woodstock, sawdust is coming into the St. John from the State of Maine in large quantities. In June last lumber jammed the Aroostook Falls which held back twenty-five acres of sawdust and mill rubbish. This was all carried out into the St. John River with a heavy rise of water last month. The quantity of sawdust in the St. John River from mills on the Canadian side of the line, is small compared to that from the county of Aroostook, in the State of Maine."

Marine and Fisheries.

Negotiations with the United States were entered into in October, 1891, with a view of taking international action in waters that pass from one side of the boundary line to the other, and Commissioners have been appointed who will report to their respective Government the results of their investigations.

EXEMPTED RIVERS.

It has become a serious question for the department to consider, whether rivers which have for various reasons been exempted from the operations of the Act for the protection of navigation, etc., should be any longer exempted. The matter is all the more serious as large expenditures have been made in establishing and maintaining fish hatcheries in which not only one class but all the community is interested, fishermen as well as fish consumers. The importance of taking steps to enforce the Act becomes apparent when it is considered that fry cannot be utilized to replenish streams in which sawdust and refuse are permitted to escape from mills, and, as it is desirable that all parts of the country may be benefited by the operations of hatcheries, it appears almost indispensable, that action should be taken to enforce the Act on all waters in Canada, that are suitable for propagating fish and increasing this supply of human food. The efforts of the department to propagate fish by means of hatcheries have been partly neutralized by the pollution of streams by mill-owners who deem it necessary that the streams should be used to carry off their refuse.

CONTRIVANCES FOR DISPOSING OF SAWDUST.

The Annual Report of the Fisheries Department for 1890 contains diagrams of devices for catching sawdust and preventing it from falling into the water. The contrivances for carrying away the sawdust vary from very simple means, costing about $350, to more complicated machinery, costing about $1,500. A very inexpensive blower for removing shavings from planing mills, sawdust from saw-mills, etc., is used in some parts of Maine, Massachusetts and New Hampshire, U. S.

The following extracts are taken from letters which appeared in the *Sawdust Gazette* of November 1892, published in Burlington, Vermont :—

" The price of a blower for doing the work of taking sawdust from a saw sawing 1,000,000 of lumber per year, would be about $45 per year, that size " E " blower. It would cost about $6 to $7 to set up the same in proper position and belt it, in addition to which it would cost 40 cents per running foot for galvanized iron conductory pipes from outlet of blower to end of discharge, which would vary in different mills from 10 to 100 feet."

Another kind of blower is also referred to as follows, in the same paper :—" The expense of a blower large enough to take away the sawdust from a saw-mill cutting 20,000 to 25,000 feet per day would be about $33 net F. O. B."

" The pipe from such blowers is very often made of wood of one-inch boards at the mill itself ; but, of course, it don't really cost very much to put it in under these circumstances."

The question of disposing of sawdust is one which can be dealt with in the most practical way by mill-owners. From reports received from fishery officers of the department, it is found that in the majority of instances where the Act in enforced, mill owners have not experienced much difficulty in disposing of sawdust. From this fact it is concluded that obstacles alleged to be in the way of disposing of mill refuse and sawdust on rivers hitherto exempted from the Act, can be overcome at comparatively little expense and without serious injury to the lumber trade.

OBSTRUCTIONS TO NAVIGATION.

Sawdust and mill refuse deposits in navigable rivers unquestionably form serious obstructions to all craft which use these streams. The reports of officers who have dealt with the question of sawdust in streams and rivers, contain numerous allusions to the injury which navigation has sustained by large deposits of mill refuse. In sluggish rivers which empty into the sea, the current does not carry off the sawdust before it becomes watersoaked, and it therefore sinks. In many rivers where the current is strong there are many indentations in the banks, also wharfs and projections which form eddies and return currents, and in these places the sawdust accumulates and is prevented from going down the stream while buoyant.

FISH-WAYS.

The report of Mr. Robert Hockin, Fishery Inspector for District No. 2, Nova Scotia, on fishways forms Appendix H of this Supplement. It will be seen by reference to the report that the Hockin fishway has been placed in a number of rivers in Nova Scotia, New Brunswick, Quebec and Ontario, making twenty in all. Inquiry has been made by Mr. Hockin respecting the efficiency of the fish-way, and it will be seen by the correspondence with fishery officers that the Hockin fish-way is considered superior to others that have been tried.

The question of prescribing this fish-way for other streams is being considered, and if those already constructed continue to prove successful, instructions will be given to have them placed in a large number of streams.

SEA AND INLAND FISHERIES.

At Appendix I will be found answers from fishery officers and others to a series of questions submitted by the department affecting both the sea fisheries of the Maritime Provinces as well as the inland fisheries of Quebec and Ontario.

The principal questions touched are the extent of the fisheries, the home consumption, the product dried or pickled used in Canada, as well as the quantity exported, the various prices of fish, the means of fostering depleted fisheries, the kinds of fishing crafts used, gear, etc., the number of men employed in the fishing industry, respecting oyster and shad fisheries, trap, nets, mackerel and herring nets, and the bait question.

The extent of our sea coast and area of inland waters are given as follows :—

LENGTH OF SEA-COAST AND AREA OF INLAND WATERS.

	Miles.	Acres.
Nova Scotia	1,200	525,600
New Brunswick	550	98,900
Prince Edward Island	400	.....
Quebec	1,200	3,728,176
British Columbia	7,000	.....
Ontario	.....	3,881,729

THE GREAT LAKES.

The great lakes separating the province of Ontario from the states of New York, Ohio and Michigan contains more than half the fresh water of the globe. They are as follows :—

Lakes.	Length, Miles.	Breadth, Miles.	Area, Square Miles.
Superior	390	160	31,420
Huron—with Georgian Bay	400	160	24,000
St. Clair	25	25	360
Erie	250	60	10,000
Ontario	190	52	7,330

This chain of lakes extends over 1,000 miles. The total distance between the head of Lake Superior and the Straits of Belle Isle is given at 2,384 miles : 71 miles of this system of inland navigation is by canals.

The other principal large lakes of Canada are Lake of the Woods 1,500 square miles area, Winnipeg 260 miles long, 65 miles broad, with an area of 9,400 square miles ; Winnipegosis, 130 miles long, 27 broad, area 2,030 square miles ; Manitoba, 122 miles long, 24 broad, area 1,900 square miles.

Lake Athabasca has an area of 4,400 square miles ; Great Slave Lake, 10,100 square miles, and Great Bear, 11,200 square miles.

FISH-BREEDING.

The usual report by the Superintendent of Fish Culture upon the fish-breeding operations carried on in the thirteen fish hatcheries of the Dominion in the year 1892, will form part II. of this supplement.

Several interesting papers touching this subject are annexed to this report ; the principal of which on the "*Artificial propagation of Marine Food Fishes and Edible Crustaceans*" was read before the Royal Society in June, 1892, by the Rev. Moses Harvey, LL. D. This article will be found of considerable interest to those concerned in fish-culture.

Another annex gives copious extracts from the report of the proceedings of the International Fisheries Conference held at Detroit, Michigan, in December last, indicative of the co-operation which may be expected from the contiguous states in the preservation of the valuable species of fresh water fish.

CONCLUSION.

The usual statements relative to the expenditure and revenue of this branch of the Marine and Fisheries Department, the fishing bounty statements and the reports on the Fisheries Protection Service, and Fisheries Intelligence Bureau have already been published in Part II. of the annual report issued during the session of Parliament. Continued reports to date of issue on the Behring Sea question, the Russian seizures, the Newfoundland Bait question and International Legislation will also be found published in the main report.

I have the honour to be, sir, your obedient servant,

WM. SMITH,

Deputy Minister of Marine and Fisheries.

APPENDIX A.

NOVA SCOTIA.

District No. 1, comprising the four counties of the Island of Cape Breton.—**Inspector A. C. Bertram, North Sydney.**

District No. 2, comprising the counties of Cumberland, Colchester, Pictou, Antigonish, Guysboro', Halifax and Hants.—**Inspector Robert Hockin, Pictou.**

District No. 3, comprising the counties of King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg.—**Inspector J. R. Kinney, Yarmouth.**

DISTRICT No. 1.

ANNUAL REPORT OF THE FISHERIES OF CAPE BRETON ISLAND, COMPRISING THE COUNTIES OF CAPE BRETON, INVERNESS, RICHMOND AND VICTORIA, FOR THE YEAR 1892, BY INSPECTOR A. C. BERTRAM.

North Sydney, C.B., 31st December, 1892.

Hon. Charles H. Tupper,
Minister of Marine and Fisheries, Ottawa.

Sir,—I have the honour to submit my annual report of the fisheries of District No. 1, comprising the counties of Cape Breton, Inverness, Richmond and Victoria; together with synopses of the reports of overseers and tabulated statement giving the products of the fishery for the year just closed, in kinds, quantities and values.

It will be observed that the results do not differ materially from those anticipated in my preliminary report, which I then made as full as possible, and consequently I do not report at such length as I should have had I not sent in that report.

The total product for 1892 amounts to $1,047,042.35, showing a decrease as against 1891 of $39,679.55, and compared with the product of 1890, a falling off of $463,533.52. It will appear that while the decrease in the catch of 1891 was largely confined to Richmond county, the law of compensation this year gives that county the distinction of being the only county showing an increased production. At first sight this large falling off in value of production is alarming, but I think I can in a great measure account for this state of things later on, simply calling attention just now to the decreased number of men engaged in the fisheries in 1892 as against 1890.

Cape Breton's natural advantages and superiority over any part of the Dominion, as a basis from which to prosecute the deep-sea fishery, are so apparent, I make no doubt that many wonder why more of the people do not engage in the industry than the statistics disclose. Their wonder increases when they see that instead of the number of fishermen increasing yearly they are, on the contrary, decreasing. In 1890 there were 8,910 men and boys engaged in the fisheries; in 1891, 8,252; while in 1892 the number fell to 7,876. The reasons for this regrettable state of things are obvious. For some years past, from various causes the fisheries have proved a far from successful business for those engaged therein. A stormy season, scarcity of suitable bait at the proper season, and the fact that the ice often remains around the shores of some parts of the island long after the fishing season opens, contributes materially to this result.

The mineral resources of the island are well known, and in Cape Breton county the coal industry has been unusually active since 1880, and naturally the surplus labour gravitates to industrial centres where the labourer receives a quick return for his hire; while at best the fishing business is precarious and those engaged therein cannot look for return before the end of the season.

These causes sufficiently account for the falling off in the number of persons engaged in the fishery.

It will be observed by the table below that the yield per man in Inverness and Richmond counties is appreciably greater than that in the counties of Cape Breton and Victoria.

Counties.	Men.		In-crease.	De-crease.	Yield per Man.		In-crease.	De-crease.
	1891.	1892.			1891.	1892.		
Cape Breton	1,652	1,531	.....	121	118·73	116·88	.....	1·85
Inverness	2,437	2,091	.....	346	141·03	162·14	21·11	.....
Richmond	2,150	2,412	262	.....	138·91	153·79	24·88	.....
Victoria	2,003	1,883	.....	170	123·83	91·15	.....	32·68
Totals	8,242	7,868	262	637	.....	.....	.....	.....

I am looking forward to being able to report there being built here one of the fish freezers and cold stores, the plans and specifications of which were published in the annual report of last year. From what I learn of the success of one built at Canso, it is looked upon as being a successful venture by parties here not otherwise engaged in the fisheries, and they inform me they hope to have one in readiness for next season.

CODFISH.

Taking the different kinds of fish in the order of their values as exhibited in the returns, I find that the codfish catch did not come within 8,304 cwts. of the quantity taken the previous year. Considering the lessened number of men employed in 1892 as compared with 1891, I find that the yield per man is about equal in 1892 and 1891. The forecast given in my preliminary report turns out to be correct, while the results are a natural sequence of the causes therein stated.

MACKEREL.

There is an appreciable increase in the number of barrels of mackerel taken during the past season, the total being 12,450 as against 8,128 barrels in 1891. Unfortunately the prices obtained for the fish were much lower than those of 1891, and consequently the fishermen did not do much better in comparison with the previous year. The increase in the product of this important fishery is worthy of note, in view of the oft reiterated statement that they are not now as plentiful as formerly.

HERRING.

The catch of herring failed to come up to that of 1891 by 5,171 barrels; the catch of 1891 being 31,326 barrels against 26,155 barrels in 1892. As explained in my preliminary report, the shortage occurred principally in summer herring.

LOBSTER CANNING.

I was enabled to deal with more accuracy with the result of the season's work in the lobster canning business in my preliminary report than with any of the other leading branches. The statistical table shows a total catch of 1,016,255 cans as against 1,339,565 cans in 1891. Several of the canning establishments have closed down owing to financial difficulties, and I do not anticipate there will be as many engaged in putting up lobsters in 1893 as in 1892.

Heretofore the smelt fishery has only been prosecuted in one district, but this autumn licenses for bag-net smelt fishing were applied for to fish in several other districts of this island. This fish in a frozen state is shipped in boxes by rail to the markets of the United States, and the smelt fishery is likely to become an important winter industry with some of the Cape Breton fishermen.

There is no reason why our waters should not supply the markets in the cities and towns of Canada with fresh fish in winter. In the Bras d'Or Lakes there is abundance of excellent cod which can easily be taken through the ice, and now that we have rail facilities can be shipped fresh to those markets. Last winter a car of frozen cod was sent to the Toronto market, but it appears that owing to mild weather the fish became slightly damaged, resulting in a poor sale and loss to the shippers. There appears to be no reason why a successful business should not be established in the frozen fish industry during cold weather, as fish are always plentiful and good markets available.

SYNOPSES OF FISHERY OVERSEERS' REPORTS FOR THE ISLAND OF CAPE BRETON.

CAPE BRETON COUNTY.

Overseer Francis Quinan, of Sydney, reports that the past season has been the poorest season's fishery in his experience, and particularly in regard to the mackerel, herring and halibut branches of the fishery. Fishermen cannot assign a reason why those fish were so scarce. Salmon and alewives statistics show an increase over the past year. The season was also poor for the lobster fishery in his district, but those taken were larger than in previous years. The small catch, and frequent storms, caused the factories to close down earlier than the prescribed date of closing. Dog-fish made their appearance in large numbers on the coast, after an absence of many years, and interfered with the fishery. The river fishery was poor, owing to the long-continued drought.

Overseer Alexander McDonald, of East Bay, reports a decrease in the catch of the deep-sea fishes in his district. The decrease in the cod fishery, he attributes to scarcity of fish and bait. The herring fishery was a failure, these fish not striking into the harbours and bays as formerly. Mackerel struck in fairly plentiful in his district, but their stay was short. They were found more plentiful this season in shoal water than in deep water where fishermen usually set their nets. The result was a smaller catch. The lobster fishery was up to the average catch of former years, and would have been larger if bait had been more plentiful. In the inland waters of Bras d'Or Lakes, winter fishing was more vigorously prosecuted than formerly, and fair prices were obtained by those engaged in the fishery. Alewives were more plentiful than during the past few years, and many good hauls were made by the inhabitants. These fish are used for food and bait purposes. In the early part of the season the rivers were well stocked with trout, but the heavy midsummer drought caused low water, and the midsummer runs of these fish did not enter the rivers, thus causing poor angling for sportsmen. The overseer reports the regulations well observed in his district.

Overseer Wm. Burke, of Mira Ferry, reports the catch of cod, haddock and herring in his district below the average. The July herring fishery was a complete failure this season, as was also the September catch of this fishery, particularly in the district of Scattarie. The salmon sea-coast fishery was, this season, a total failure, but in Mira Bay a catch slightly above the average was taken. This run, however, was of small size, supposed to be the product of the Sydney hatchery. The lobster fishery was also below the average. The crustacea was scarce, and the want of bait militated against the fishery. The catch of spring mackerel of Louisburg and Big Lorraine was the best known for many years. At Little Lorraine, Bauline, Main-à-Dieu and Scattarie, this branch of the fishery was poor. Dog-fish visited his section of the coast in immense numbers, and caused some destruction to fishermen's nets, and in some instances prevented fishermen from setting nets for herring. Caplin visited the district in July for the first time in many years, affording a good supply of bait to fishermen.

Overseer Richard Hickey, of North Sydney, reports a slight increase in the catch of cod and haddock in his district, over the previous year. He regrets, however, to be obliged to report a decrease in the mackerel, herring, halibut and lobster fishery. The lobsters were scarce, and the run small, and fully half of those which entered the traps were under the prescribed nine-inch limit and had to be liberated by the fishermen. Heavy storms prevailed during the latter part of June, causing considerable destruction to the gear of the lobster fishermen. The result was the packers closed down two weeks before the prescribed date of closing.

One of the most important branches of the fishery industry in his district is that known as the "midsummer herring fishery." About the last week of June, or the first of July, schools of large fat herring usually enter the bays and harbours, affording an opportunity, not only to professional fishermen, but also to the farming population, living adjacent to the sea-coast, to catch many barrels of these fish, which when well cured, find a much larger market and command a higher price than the best Labrador herring. This year, however, the fish did not strike in as usual. Whether or not their course was diverted by a heavy easterly storm which prevailed at the time or other causes, the fishermen are not able to account for the absence of these fish from our waters this year. In the month of September large schools of dog-fish visited the coastal waters of his district returning after an absence of thirty or forty years. These specimens of the finny tribe are unwelcome visitors to our waters, as they frighten away other fish and are destructive to fishermen's nets.

INVERNESS COUNTY.

Overseer D. F. McLean, of Port Hood, reports a considerable increase in the catch of salmon, mackerel and alewives for 1892 over that of the preceding year. In nearly all other branches there has been a considerable decrease. The run of "spring herring," which has always been taken in abundance in his district, was this year a total failure. This class of fish is usually used for bait, and many Canadian and American fishing vessels were in former years supplied therewith, paying considerable money to local fishermen which has thus been lost this year. It is also a matter of regret that there has been such a large decrease in the catch of lobsters. It is contended by many old and experienced fishermen that the scarcity of lobsters was largely due to the fact that no spring herring spawned on the coast this season. He thinks there is a great deal of force in the contention, as lobsters were taken in large quantities in other districts where the run of spring herring are known to have spawned. There were seven lobster factories in operation in his district during the past season, in which 140 hands were employed besides the usual fishermen. The increase in the catch of mackerel would indicate that the law prohibiting the use of purse-seines is already bearing fruit. The violations of the regulations were duly reported and the offenders punished. Owing to a dry midsummer causing little water in the streams, very few trout or salmon ascended there until October, when the water became higher. There was one trap-net under license in his district during the season. The value of the fish taken in this net aggregated $757.

Overseer James Coady, of South-west Margaree, states that the statistics of his district this season show a total increase of $2,473.84 over 1891. The increase is in the branches of lobsters, salmon and alewives. Three new lobster factories in operation in his district this year accounts for the increased catch. This branch of the industry was not, however, a profitable one owing to a short season and blustery weather.

Salmon net fishing on his section of the coast was better than for some years past and exceeded the total catch of 1891 by over 9,000 pounds. On account of the extreme dryness of the season very few salmon entered the river the first part of the season. During the months of September and October the rivers were well supplied with water, salmon entered in large numbers; as a result the rivers were never noticed to be so well stocked with parent fish, which were well protected by special guardians. The catch of alewives was the largest for many years, and exceeded that of the previous year by 400 barrels. The catch of mackerel and herring was less than the previous year. Cod fishing in the northern end of the district was about the same as 1891. In the southern

nd of his district a large number of those usually engaged in cod fishing were engaged n the lobster fishery and also a number were employed on Government works, thereby ausing a falling off in the catch of codfish by about 50 per cent. All other kinds of ish not referred to in the foregoing shows about an average catch compared with last ear.

Overseer David Ross, of North-east Margaree, reports an increase in the catch of odfish in his district over the previous year of 7,000 quintals. The catch of salmon y net fishing in outside waters has also been better than that taken in the previous ear. But net fishing in the tidal waters inside, as also surface fly-fishing was a failure owing to the drought which prevailed during midsummer. He reports the catch of mackerel and herring as below the average; that of mackerel being 1,100 barrels less han in the season of 1891. In consequence of two more additional lobster factories being perated in his district during the past season, the catch shows an increase in this ranch; but the season was not a more profitable one, notwithstanding. Lobsters were ot found plentiful, and heavy gales damaged the fishermen's gear. The regulations were well observed throughout the season.

Overseer Lewis McKeen, of Mabou, reports that the total value of fish caught in his district is considerably less than in the season of 1891. In the coal mines district the majority of fishermen devoted a great deal of attention to mining, while at Mabou Harbour the extensive gypsum works employed numbers of men who formerly prosecuted the fisheries. Fish of all kinds were found to be much scarcer than usual. Dog-fish were found to have been more numerous than they have been for forty years. Fishermen have no doubt that the presence of these fish on the coast had much to do with the limited quantity of fish taken, excepting shell-fish. Two lobster factories operated in his district during the season. The catch was small, one of the factories canning less than one-fourth the quantity canned in the season of 1891. The rivers in his district were not well supplied with trout owing to the drought during the months of July and August, and as a result fly-fishing was also poor.

Overseer Peter McEachen, of Glendale, reports a much smaller catch of trout in his district than during the year 1891, but a most satisfactory increase in the take of oysters. The fishery regulations were well observed.

RICHMOND COUNTY.

Overseer D. Cameron, of St. Peter's, reports a decrease in the catch of cod and haddock in his district of 3,000 quintals, compared with last year. In other branches of the fishery industry there was not an average catch. His former district has been divided, leaving the western section thereof under his charge. The fishery regulations were well observed.

Overseer Alfred Lenoir, of Arichat, reports a poor year for the fishermen in his district. The lobster fishery commenced as early as the month of April, but the year's operations show a catch below the average, owing principally to the run of small lobsters. The catch of mackerel and herring was hardly an average one. Codfish were very scarce, and haddock, which are usually plentiful in the waters of his district, was a total failure. Fishermen cannot assign any cause for the scarcity of fish on the shore banks this year.

Overseer John Murchison, of Grand River, reports a large increase in the catch of mackerel in his district over that of last year, an average catch of cod, and a decrease in the catch of herring, haddock and lobsters. The fishermen engaged in the latter branch complain of a short season, being about one and one-half months. The catch of salmon was below the average also, owing to a decrease in the number of people engaging in this fishery. Large numbers of salmon visited the Grand River during the season and ascended as far as the falls, but owing to obstructions could not reach the upper waters of Loch Lomond. He reports also an obstruction on the Larcheveque River, the outlet of Ferguson's Lake. The cost of removing the latter would not, he thinks, exceed $100, and would afford improved spawning grounds to fish. The increase in the catch of mackerel, and the fairly good price obtained by the fishermen for their fish will go a long way to make up the deficiency in other branches. The fishery regulations were well observed during the season.

VICTORIA COUNTY.

Overseer Duncan McDonald, of Aspy Bay, reports an increase in the catch of cod and haddock, while that of mackerel and herring show a decrease. The present has been the poorest season for the mackerel and herring fishery the fishermen of this district have experienced for many years. The spring run of mackerel was light, but in August and the early part of September they made their appearance in the bays in large numbers but would not take the hook freely. Later in the season the weather became blustery, and with the unusual presence of dog-fish in the coastal waters, the net fishing proved a failure, resulting in a poor mackerel fishery for the whole season. The decrease in the catch of herring is due to the fact that those fish did not make their appearance as usual in large numbers in the bays. The increase in the catch of cod and haddock, however, will make up to some extent for the falling off in other branches.

The lobster catch was light in proportion to the number of men and the capital engaged in the industry. Packers complained of the scarcity of lobsters throughout the season. Salmon show a slight increase over last year's catch, and would have been greater were it not for stormy weather in the month of June. Many young trout and salmon perished in Grey's Brook, Aspy Bay, during the dry season in midsummer when the brook became dry. He is of opinion that something might be done to prevent a recurrence of this incident.

Overseer Wm. Bingham, of Englishtown, reports a marked decrease in the various branches of the fisheries in his district, the average catch being about two-thirds less than in the year 1891. The run of spring herring was fair, but the demand for these fish for bait purposes was not great, resulting in a loss to the fishermen of the district who have been in the habit of supplying vessels every season which called at St. Ann's for bait. The summer run of herring did not strike into the harbour of St. Ann's as formerly, but some were taken near Indian Brook. Possibly their course was diverted by vessel fishing at this point. The cod fishery during the summer was also a failure, but towards autumn these fish became more plentiful and fair daily catches were made. A few barrels of spring mackerel were taken, but the summer and fall mackerel fishery was a complete failure. The catch of salmon was also below last year's catch. Squid, which is the best article for bait known, was scarce in July, but later in the season it became so plentiful as to interfere with the fishery, the codfish feeding so largely thereon that they would not take the hook. Lobsters were very scarce, the result being that packers canned only one-third as much as the previous year. The two fish-traps licensed in the harbour and bay did not prove as remunerative for the owners as was expected, owing to scarcity of fish and high gales. The regulations respecting river protection were carefully carried out.

Overseer Donald McQuarrie, of Middle River, reports a falling off in the fisheries for the year in his district. With the exception of Grand Narrows and McKinnon's Harbour, the fish taken in his district is mainly used for home consumption. Last winter being mild, the inhabitants caught large quantities of cod and herring in the Bras d'Or Lakes. Most of these fish were used for home consumption. A larger quantity of oysters were taken in his district than in 1891. The catch of alewives was smaller than for the past two years. In the Baddeck and Middle rivers trout did not ascend as usual in midsummer owing to the long-continued drought, the water being low and clear. When the fall rains began, both salmon and trout entered these two rivers in large numbers, and ascended the upper waters to the spawning grounds.

The staff of special guardians appointed on the river did good service in protecting the fish which would otherwise have been disturbed and killed.

I have the honour to be, sir,
Your obedient servant,

A. C. BERTRAM,
Inspector of Fisheries.

DISTRICT No. 2.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 2, OF NOVA SCOTIA, COMPRISING THE COUNTIES OF CUMBERLAND, COLCHESTER, PICTOU, ANTIGONISH, GUYSBOROUGH, HALIFAX AND HANTS, FOR THE YEAR 1892, BY INSPECTOR ROBT. HOCKIN.

Pictou, N.S., 31st December, 1892.

Hon. Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to submit herewith my fourth annual report of the fisheries in District No. 2, province of Nova Scotia, together with tabulated returns, showing quantities and values of each kind of fish caught, as well as comparative tables, showing the increase and decrease of the fisheries in each county; also, the increase and decrease of the catch of each kind of fish.

The returns have been carefully compiled from reports submitted by overseers, excepting in two cases. Owing to the temporary absence of these officers, the appointment of special enumerators was necessitated, and responsible and respectable men were engaged for this purpose.

The value of the catch for 1891, as reported, was $1,640,912, and the average annual yield for the past seventeen years has been $1,650,915. The value of the catch for this year is $1,357,208, being $283,704 less than last year, a decrease of 17 per cent. It is less than an average catch by $293,707, or about 18 per cent.

In four of the seven counties of this district, viz., Antigonish, Colchester, Guysborough and Hants, there is an increase aggregating $52,412; in Pictou and Cumberland, a decrease of $17,280, while from Halifax county alone, the reported decrease is $317,836, and this chiefly from West Halifax, attributable to an almost entire failure of the fall mackerel and short catch of deep-sea fish, because of the scarcity of bait, for, while in the reports from the state of Massachusetts the abundance of herring is noted, and there was an abundance of these fish in other parts of this district, they do not seem to have visited that part of Halifax county bordering on St. Margaret's Bay,

The entire catch of the cod family is valued at $322,947 as compared with $425,293 for last year, a decrease of about 24 per cent.

I find so little general knowledge with regard to the spawning of these fish that it may be well to quote the result of expert inquiry from the Encyclopædia Britannica, Vol. IX., page 244:

"It was stated by Professors Huxley and Allman, in 1867, before the Select Committee of the House of Commons on the sea-coast fisheries (Ireland) Bill, as within their personal knowledge that fish ova had been found floating at the surface of the sea, and that the ova they had met with were, in all cases, alive, and some of them in an advanced state of development. Reference was, at the same time, made to the observations then recently recorded by Norwegian naturalists on the spawning habits of the common cod, leading to the belief that spawning at the surface was by no means uncommon with our sea fishes. These investigations have been systematically carried on during the past ten years by Professor G. O. Sars, of the University of Christiana, and have resulted in some unexpected discoveries.

"The seas in the neighbourhood of the Loffoden Islands, on the coast of Norway, had long been known to be a great place of resort for cod during the spawning season, and in 1864 Professor Sars commenced his work there, and by means of a small surface towing net he obtained plenty of the ova of the common cod floating on the surface, examples in various stages of development were procured, the young fish were successfully hatched out and the species identified beyond a doubt.

"Subsequent observations fully confirmed the accuracy of the conclusions previously arrived at that the cod spawn was not deposited on the ground, but floated freely at or near the surface.

"In 1865 the same observations were made of the ova of the haddock, and it was satisfactorily proved that they went through all their stages of development while floating at the surface in precisely the same manner as in the case of the cod.

"Sars was at first inclined to believe this development of the ova while floating at the surface was peculiar to the members of the cod family in its restricted sense; but in the summer of 1865, he visited the southern coast of Norway during the season for mackerel and found abundant evidence of the same rule obtaining in that widely distinct fish. In the case of the mackerel the spawning actually takes place at the surface; but with the cod family, we believe the operation has not been so distinctly observed.

"The ova, however, are undoubtedly met with at the surface and at a short distance below it.

"M. A. W. Malin, of Gothenburg, also independently ascertained that the ova of that essentially ground fish, the plaice, follow the same rule of floating at the surface."

* * * *

"Sars has pointed out that the development takes place at the bottom in the case of those fishes especially, whose ova are cemented together by a glutinous secretion, and he mentions as examples the herring, caplin, &c., &c."

* * * *

"If floating near the surface be the rule with the spawn of the cod and haddock, there can hardly be a doubt about its being so likewise with the ova of ling, whiting, pollack and hake, all belonging to the same family."

* * * *

"Again, halibut, plaice and flounders are all closely allied, and there can scarcely be a doubt that the same rule applies to all which Sars and Malin have established in the case of the plaice, one of the most typical of this group of fishes."

* * * *

"We know that the spawn of herring is commonly found at the bottom, although it by no means follows that the parent fish is there when the ova are excluded; for the full herring is frequently taken in drift nets which are very near the surface, and these nets are often covered with small lumps of spawn.

"At the same time the specific gravity of herring spawn is greater than water, and it sinks to the bottom sooner or later if nothing intercepts it. There is no evidence of its ever floating at or near the surface as is the case with that of the cod."

Having further reference to the spawning of mackerel, same work, vol. XV., page 159, it is stated that: "Vicinity of land or shallow water are not necessary conditions for the oviposition of mackerel; they spawn at the spot which they happen to have reached during their wanderings at the time when the ova have attained their full development, independently of the distance of the land or of the depth of water below them, as the ova float and the embryo is developed on the surface of the water."

In support of the above contention, it is stated that when mackerel strike the coast in the spring, it is in search of food and not for the purpose of spawning. In this connection I desire to bring to your notice a fact which has come under my own observation and which would seem to indicate that these fish are either on their way to their spawning grounds or are going northward for spawning purposes, perhaps until they arrive in waters of the required temperature.

Mackerel are taken in June full of spawn in the Chedabucto Bay, and it is said all along the coast of Cape Breton they are in the same condition, and are fished there and at the Magdalen Islands, until the latter part of June or first of July. They then disappear and when caught on their return they have no matured ova in them.

When they strike the coast in the spring months, they pass right on northward, and do not linger for food as they do on their return. One is therefore almost forced to the conclusion that the primary object of the fish is to reach its spawning grounds and not merely search of food, and that the waters frequented for this purpose are those of the Gulf of St. Lawrence.

The catch of mackerel in this district has been less than last year by nearly 50 er cent, and a large proportion of those taken were caught in the spring months ; the ıll fishery was almost an entire failure.

Of herring, on the contrary, the catch was unusually large. The quality, however, id not equal the quantity. This fish is at its best in July, during which time very few ere taken on the Atlantic coast. The fish were unusually abundant in the Straits of Northumberland.

Squid were exceedingly abundant ; so much so as to render the catch of little value o our local fishermen who supply the fish to bankers, for they were able to supply themelves. In some instances, too, the presence of these fish led to the destruction of many ets because of the voracious dog-fish tearing the nets when feeding upon the fish taken ı them. Prices ruled low.

LOBSTERS.

With regard to the spawning of lobsters the following extracts from the report of Mr. S. Garman, of the Museum of Comparative Zoology, Cambridge, Mass., to the Fishry Commissioner of Massachusetts, Hon. E. A. Brackett, are interesting and worthy of onsideration :—

"According to the arrangements made some of the eggs from berried lobsters kept or the purpose were sent me at regular intervals through an entire year. These eggs ere at once examined to note their progress in development, and they were then preerved by various methods for future study and comparison. After their young were atched the females themselves were dissected to observe the condition of the ovaries nd to determine the time when another lot of eggs might have been expected from hem. As our work began in mid-winter it was necessary to follow certain specimens ıp to the hatching and to take others to complete the series from the laying. Eggs upplied me as freshly laid were so far advanced as to indicate that fertilization had aken place before they were placed under the tail of the lobster bearing them. The ime and process of fertilization has not been discovered, but in all likelihood the marine obster does not differ greatly in these respects from its fresh-water relatives the cray ishes. * * * * * *

"The development of the embryo in eggs laid on the 7th or 8th of August, was so rapid, that, on the 3rd day of September, the eyes were visible as thin crescent-shaped spots. As the water grew colder, the progress was retarded, until the changes were very slight indeed. This condition was maintained throughout the winter, and it was only when the summer temperature was reached that rapidity of advancement was again to be noted ; the young began to hatch on the 14th day of July, all of the eggs on a female seeming to be about equally advanced ; the entire brood emerged at very nearly the same time.

"Examination of the ovaries after their young had left showed that the females would not have laid eggs again for a year, that is, not before the summer next following that in which they had hatched a brood. In other words, the dissection proved that the lobster lays only once in two years, hatching a brood one summer and laying eggs the next following summer for another brood."

The returns of the catch of these fish in this district exhibit a decrease of about 12 per cent as compared with last year, although they equal the catch of 1890. This decrease has not been local, but has applied generally to that portion of this district upon the Atlantic coast, and upon the Straits of Northumberland, indicating that this fish has a greater range of movement than has been supposed. If it was of so local a character as has been judged by some we would expect to find good fishing in one part and poor in another, but this, at any rate this season, does not seem to have applied to this fish more than to any other.

With regard to the regulations, the season has been well observed in the Straits of Northumberland, and upon the Atlantic coast it has been nearly as well. In fact the nibbling which is done by means of tan pots on islands along this coast does not amount to the output of one factory in season. Nevertheless stringent measures have been adopted to suppress this, the most effective of which has been by the cutters.

The difficulty of engaging proper persons to undertake the enforcement of a complete observation of the law, is owing to the fact that in these localities the uneducated population have no desire to see the law observed. There is in most of the settlements no public sentiment in favour of the regulations. It has been well said that an act may be made punishable to any degree by statute, but to stamp it with the stigma attaching to the word crime a public sentiment is indispensable where the packing is in the hands of small dealers; there we have most difficulty, for they are generally disposed to sacrifice the most important future interests to the present moment.

Apart from the fact that the fish in the fall months are not equal in quality to those in the spring and in size, three in the fall are not in weight equal to what two of them would be if left to the spring, there is this which seems to be lost sight of by those who advocate a month's fishing in the fall. If all fished, and the same number of traps set as in the spring months, the additional quantity placed upon the market would be enough to lower the present price; for witness the effect of the extension of the season in 1891, and how quickly the buyers dropped the prices when it was found the supply would be greater than usual. The effect would, therefore, be that the additional labour would bring no compensation.

In the interest of those who observe the law a stringent enforcement is necessary. Nothing is so aggravating to a law-abiding fisherman as to see the lawless element profit by their lawlessness.

SALMON.

From the whole district the returns show an increase of about 6 per cent, and from those counties upon the Straits of Northumberland an increase of about 50 per cent, and this under the adverse circumstances mentioned in previous reports; and not only has there been an increase in the catch, but the officers report that in the rivers during the time they ascend for spawning the fish were unusually abundant, so that it appears that some returns are being made for the care that this fishery has received at the hands of the department.

As an instance of what may be done in the way of fish culture, I wish to bring to your notice one circumstance which came under my observation this season.

On the Magaguadavic River, New Brunswick, there are falls which under ordinary circumstances are impassable, but owing to a wing dam being constructed a large volume of water is directed through a gap, the bottom of which is some 6 feet above the surface of the water below, and when there is a full head of water it flows through the gap 5 or 6 feet deep. There is no pool below where salmon can linger, make a rush and leap into this volume of water; nevertheless, relying upon the statements made to me by a number of respectable people whose statements agree and are not to be doubted, salmon were seen jumping in the waters above this gap, and they could not have got there except through the gap. This is interesting, because it demonstrates that the powers of salmon to overcome obstruction has been underestimated by those who have given no attention to the subject; secondly, it proves that fry deposited in new waters return to that river.

It has been asserted by some that if the fry from a fish taken in one river are deposited in another that in its adult stage it will seek the waters of the mother fish.

This completely does away with this argument, because in the memory of man salmon have not been seen in these waters, and there can be no room for doubt but that these are the adult fish of fry deposited some four years ago in these waters.

The value of the catch of salmon in my district is $45,000, and by rendering the obstructions in the rivers passable it ought to be an easy matter to double the value of the annual catch by an expenditure in constructing fish-ways which would not amount to half of one year's production. The work of constructing fishways is progressing as fast as possible, but under most favourable circumstances is slow. When it is remembered that it is only possible to do this work in one or two months, and that mill-owners generally manage by promises to perform by appeals for delay and otherwise to postpone the work for a year after notice has issued, it will be seen that rapid progress is almost impossible.

SHAD.

We have this year a return of 1,811 brls., as compared with 1,178 for last year. This is the largest catch since 1885, and being about 50 per cent over that of last year, which in turn was 50 per cent over that of 1890, and yet the known conditions are the same.

SMELTS.

The quantity taken in this district is never very great, but this year it has been 30 per cent less than last, not because the fish were not present in our waters, but because of the mildness of the weather. Ice did not form strong enough to permit of bag-net fishing, by which means they are generally captured.

SPECIAL GUARDIANS.

In most of the counties in my district the office of warden has been abolished and instead of employing men to take care of a river for so much per annum, guardians are employed and paid according to the amount of time devoted to the work.

This has largely increased the responsibility and work of this office, and the duty of seeing that the public receive value for the money spent in protecting the rivers is one involving considerable unpleasantness and doubtless annoyance to public men and members of parliament. Still it is admitted that the result has been better work, and honest men who mean to do their work properly have no cause for complaint, the howling comes from those who are wont to draw their salary as a pension.

During the past year the inspector has travelled, in connection with the work of the department, by railway 7,235 and by highway 945 miles, and besides examining diaries of special guardians, making up their accounts and forwarding cheques, making plans for construction of fish-ways, and official reports, has conducted correspondence covering 1,210 pages of the letter-book.

ANTIGONISH.

Overseer John McDonald reports that in the early part of the season fish were scarce, excepting herring, which were very plentiful but of little value except for lobster bait, being very poor at that season.

In the early part of the season the lobster fishery was about up to the average, but as the season advanced the fish decreased in size and number and fishermen reported that they were throwing overboard double the number that they were taking to the factories. He advocates shutting down the factories for a year or two.

The salmon fishery has been better than for years, particularly at the eastern part of the county, probably because the larger rivers flow into the straits at this part.

Hake were plenty, but scarcity of bait prevented larger catches.

Mackerel will, he fears, in a few years be a thing of the past. In former years they could be seen schooling close inshore; now, and for several years past, very few have been taken.

Three new lobster factories were started this season.

The river wardens report no violations. There were some nets set contrary to law near the mouth of some rivers, which were seized and destroyed.

He has inspected a number of fish-ladders, but found none of them efficient, and he asks that new fish-ways, of the latest approved design, be built where practicable.

COLCHESTER.

Overseer Henderson Gass says the rivers in his district have been constantly watched by special guardian, nevertheless some disguised persons attempted to fish.

The fish-way in Balfour's mill-dam has not been rebuilt, although notice was served upon the mill owners. They promise to put one in next summer. William Porteous has not yet constructed a fish-way in his dam, although notified to do so; but he also promises to proceed next summer, when he intends building a new dam.

Herring were very scarce. No mackerel were taken in Tatamagouche Bay.

Quite a quantity of oysters were raked, and unless a lease is given to some parties thus protecting the beds they will soon be depleted.

Overseer Davidson says shad made their appearance early in July, the best catch being about the middle of the month. One weir took 2,800 shad of very large size in

one tide. The fish, however, did not stay long but disappeared about 1st August. The increase has been considerably over last year, but at this rate it will take a long time to return to the catches in a single season of 3,000 to 5,000 barrels. This year it was about 1,100. He considers that if the shad were protected in the rivers they frequent to spawn, the increase would be much more rapid. This year the shad taken were marketed at home.

Salmon were a little more plentiful and it was not a good year for poachers, for when the rains came the rivers became quite high and salmon passed where they were generally taken.

A number of fish-ladders are required in this district, and notices have issued for their construction upon the important rivers.

Overseer Pollock says there have been fewer salmon in the Stewiacke River this season than last. Gaspereaux were more plentiful, and those taken found a ready market in Halifax for bait.

There were more and larger shad taken than last year, and trout were plenty in all the important streams.

CUMBERLAND.

Overseer George Gilroy reports salmon were plenty when the rains set in. The poachers were numerous, and the two guardians on the river were on one occasion overpowered by a number of them, so disguised that it was impossible to identify them.

The fish-way at Oxford, in Ripley's dam, has been kept in good repair, but in the Wyall dam, now owned by Richard Thompson—who intends repairing it in the spring—a fish-way will be required.

Overseer Wills has been vigilant in enforcing the regulations regarding smelts and lobsters, and inflicted a number of fines.

Overseer Murphy says alewives were scarce but herring were more plentiful. An increased quantity of oysters was taken. Lobsters were scarcer than last year. There were eight canning establishments operating this year, comparing with four last year, yet the returns show a falling off in the pack.

Salmon were very plentiful, but it is almost impossible to prevent a certain amount of poaching, as the poachers keep some of their number on the watch and take any fish they can. The fish-ladders are getting old and useless, and new ones are required. Some poachers were caught, their names reported, and proceedings against them instituted.

Overseer Fowler has been active in enforcing the law in his district. He finds some violations of the Act respecting the disposal of saw-dust, which were reported and the parties fined.

GUYSBOROUGH.

Overseer McQuarrie, in submitting his report, says that in his district the mackerel, alewives, cod and lobster fisheries all show a decrease, amounting to $10,000 in value. The shrinkage in these fisheries was somewhat compensated by an increase in the catch of herring of 6,000 brls., most of which were fall herring, taken about Holland's Harbour, a few miles east and west; large schools visiting this locality, and this only, as far as is known. Cod fishing was a failure. There are now no large boats, and the small boats used in the lobster fishery are not adapted for deep-sea fishing. This order must be reversed if there is to be success in deep-sea fishing.

The rivers and streams were very low, but when the fall rains set in large numbers of salmon are known to have gone up without interruption, as the special guardians were on the alert, and kept the streams free from nets and poachers.

The protection of the lobster fishery is the most difficult, because party politicians persuade the fishermen that the fishery is inexhaustible, and unscrupulous speculators supply cans and outfits, and the islands, coves and rugged cliffs enable poachers to defy the officers.

Fish-ways are wanted in every dam, so that fish may have a free course. All the streams in the district abound in bait fish, which bring the more important article of commerce in their train.

Wine Harbour Brook has been cleared of long-standing obstructions.

The faithfulness of guardians requires a passing notice, and he believes the patrol work was carefully performed.

Fines have been imposed in a number of cases for violation. The materials used in violation of the Act were seized. Search-warrants issued, and the fish which were taken contrary to law seized.

Overseer Cameron reports a larger catch of salmon than for many years. The spring mackerel visited the district in large numbers. Fall mackerel do not appear in such large shoals, but they arrived earlier and continued along the coast for a greater length of time. Preparations were made on an extensive scale, and new twine put in the water in the fall months,—an unusual thing at this time—and owing to this and the number engaged in the venture, a fair quantity was taken.

Herrings show an increase of about 32 per cent, taken chiefly at the Hydra shoal, where they resort in September for spawning. He questions whether the fishermen are not killing the goose which lays the golden egg.

The statement of lobsters taken is not an approximate one but obtained from the packers, shows a slight falling off from last year of about 4 per cent.

HALIFAX COUNTY.

Overseer Rowlings says lobster factories opened a week earlier than last year, and for a short time fish were fairly plentiful, but from about 1st June they were scarce.

A considerable number of spring herring were taken, but very few in July; no good fat herring were taken on that part of the coast, and only a few barrels of mackerel. The fall mackerel did not appear to pass within reach.

The yield of the cod fishery pursued in boats is below the average; but the fishermen who own vessels and went to North Bay and the Banks did very well regarding quantity, but the price obtained was very low.

Whiting were very plentiful; these fish are only good when used quite fresh.

Salmon were more plentiful than during the past five years.

He believes, under the present system of guardians, we have much better attendance to the work, and no more cost; there has been less poaching than for many years past.

Regarding bounty claims, he suggests that the time be extended to 15th December, because many of the fishermen are not finished before the first week in December, especially if the fall be fine and open.

Overseer Robert Gaston has done good work in connection with the enforcement of the lobster regulations; with the aid of one man he has destroyed over two hundred lobster traps set in violation of law.

HANTS COUNTY.

Overseer Colter has never seen such a run of bass as in the Shubenacadie this fall; they would come up with the tide and fall back until the river rose, when they went up in one night to the lakes at the head of the river.

PICTOU COUNTY.

Overseer Pritchard reports a good run of salmon in the rivers in his division. His duties are of a protective character.

Overseer Sutherland has found it necessary to inflict fines for violation of the lobster regulations with regard to size. The close season is well observed.

Overseer McQueen says that although last year he fined some parties for poaching salmon, that this class of men are slow to learn. Salmon were plentiful in the rivers this fall, and he with the special guardians did all that could be done to preserve them.

Overseer McPhie says there is a large increase in the catch of salmon in nets over last year.

Spring herring were abundant, but there was a falling off in cod and hake, and a decline in the catch of lobsters

Few smelts were taken owing to the absence of ice. A large number of eels were shipped to the United States.

Salmon were seen ascending the river in large numbers in the autumn.

I have the honour to be, sir, your obedient servant,

ROBERT HOCKIN,
Inspector of Fisheries.

DISTRICT No. 3.

ANNUAL REPORT OF THE FISHERIES OF DISTRICT No. 3 OF NOVA SCOTIA, COMPRISING THE COUNTIES OF KING'S, ANNAPOLIS, DIGDY, YARMOUTH, SHELBURNE, QUEEN'S AND LUNENBURG, FOR 1892, BY INSPECTOR J. R. KINNEY.

YARMOUTH, N.S., 31st December, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—The statistics of this district exhibit, as compared with the returns for 1891, a falling off in value of upwards of $300,000, which decrease is chargeable to the almost total failure in mackerel fishing, this item alone having fallen short upwards of 40,000 barrels.

I have before me the reports of the several overseers, but cannot from these glean an intelligent conjecture throwing any light upon the eccentricities of this fish. One year they come, and perhaps the next they do not visit our shores.

ALEWIVES

Have fallen off by about 5,000 barrels. This short catch was a serious drawback to the inshore cod fishery, as the alewife is much sought for as a bait for the cod family.

Within the three or four years past considerable sums of money have been expended in Shelburne County with a view of improving the alewife fishing, and good results should be evident at a not very distant date.

HERRINGS.

As predicted in October, there is an increased take of nearly 20,000 barrels. The prices obtained by the fishermen were a shade less than in the preceding year.

Shad, pollack, haddock, hake, salmon and cod exhibit no marked contrast with the product of 1891.

LOBSTERS

Are reported as yielding a total value of $334,536.96, which is not a fair valuation, for the reason that the departmental value of live fish exported is made at $40 per ton, when the actual value to the producer was really double, so that this one item in the fishery products should be credited with at least $190,000.. In connection with this branch of the fishing industry, I would urge that the most stringent regulations with heavy penalties be enacted. I found that the "berried" fish were being taken and sold to American smacks; hence I would suggest that a former proposition (to compel the owners of cars to register and mark the same) be adopted.

FISH—WAYS.

Happily this district is not to a great extent compelled to have these structures. Those which are supposed to be of some service are kept in good order. At Jordan River there are to be constructed two of the "Hockin" fish-ways, which may possibly solve the vexed problem of improving the value of the stream as a fish-producing river.

I am to report that the regulations compelling gill-nets to be taken up at stated hours of the day are held by fishermen to be very obnoxious measures. The fishery

fficers generally disapprove of these regulations as being impracticable, with which view am compelled to coincide.

I subjoin extracts from the reports of the several overseers, as has been the custom or several years :—

Overseer S. J. Freeman, Liverpool, says that the regulation regarding bait nets to e taken up every morning interferes greatly with the successful prosecution of cod ishing. The fishermen regard it as a great hardship and are hoping for its rescission.

Overseer R. F. Reid, Wolfville, reports a slight increase in the take of alewives on he Gaspereaux River, and that the fishery regulations have been fully maintained.

Overseer James S. Miller, Canning, reports a gradual improvement in the shad ishing, and believes that the stringing of herring nets across Scot's Bay breaks up the chools of shad.

Overseer W. M. Bailey, Round Hill, says that he attributes the gradual increase of almon to the restocking of the waters from the hatchery at Bedford ; he also states, as t result of an attempt to stock the waters of Annapolis County with whitefish, that a ew of these fish have been caught. Overseer Bailey strongly urges the building of a ranch hatchery in the county of Annapolis.

Overseer James W. Cossaboom, Rossway, advises that the lobster fishing regulations e so amended as to prohibit the taking of fish under $10\frac{1}{2}$ inches in length.

Overseer James A. Collins, Westport, agrees with Overseer Cossaboom as to the ninimum size at which the lobster should be taken, and further that the season should e extended an additional month.

Overseer John A. Hatfield, Tusket, says the lobster men have reaped a rich harvest his season, so that every available man and boy along the coast are preparing for a share in this lucrative business. He further adds that it is very difficult to get at the packers who are located upon the several islands.

Overseer E. S. Goudey, Barrington, reports a large take of salmon on the Clyde ; this is where the fish-way problem has been solved by having the dam destroyed.

Overseer W. J. McGill, of Shelburne, reports that the lobster fishing regulations are satisfactory.

Overseer W. M. Solomon, West LaHave, reports that the Labrador fishing vessels have made fairly good voyages. He also believes that the change in obtaining claims for bounties is a good one, and that one good result is that fewer claims having been made, there will be a saving of the bounty funds.

Overseer David Evans, Chester, regrets the failure of the mackerel fishing ; he thinks that there are indications of an early increase in the salmon fishing, and also reports a shortage in lobsters.

I am, sir, your obedient servant,

J. R. KINNEY,

Inspector of Fisheries.

NOVA SCOTIA—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men employed, &c., in the

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				
	Vessels.				Boats.			Nets.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.
Cape Breton County.			$			$			$			
From False Bay Beach to Long Beach	....	....	....	....	76	2530	96	4220	1148	....	3000	
From Long Beach to Big and Little Glace Bay, and Bridgeport	....	....	....	....	6	260	12	560	138	....	....	
From Lingan to South Bar and south side of Sydney River	1	10	280	3	41	806	69	2860	1040	....	2000	
From Sydney to North-west Arm, Point Edward, Coxheath, Sydney Forks River, Grand Lake and other lakes	....	....	....	....	34	380	52	1620	432	....	780	
Gabarus	1	15	300	6	133	3210	233	7800	3900	....	....	78
Grand Mira	....	....	....	....	16	170	16	800	320	....	400	
Head of East Bay	....	....	....	....	10	120	20	300	150	....	....	
North side of East Bay	....	....	....	....	15	150	30	500	250	....	....	
Eskasoni	....	....	....	....	24	240	40	400	200	....	....	
Benacadie	....	....	....	....	16	192	30	300	....	....	....	
Grand Narrows to Bryden's Landing	....	....	....	....	22	330	44	500	200	....	....	
Big Pond	....	....	....	....	14	140	28	340	170	....	100	
South side of East Bay	....	....	....	....	11	120	22	220	110	....	....	
Louisburg	1	17	300	5	42	2100	105	6450	3225	....	....	38
Big Lorraine	....	....	....	....	41	2050	90	9000	4500	12	500	27
Kennington Cove	....	....	....	....	9	180	18	1350	675	....	....	5
Little Lorraine	....	....	....	....	16	800	38	2880	1440	2	600	4
Main-à-Dieu	....	....	....	....	43	2580	95	7740	3870	2	....	5
Scattarie	....	....	....	....	15	1400	42	1000	500	....	....	1
Bauline	....	....	....	....	14	420	30	1050	525	....	....	3
Mira Bay and River	....	....	....	....	60	1630	115	14500	6450	4	7200	2
Grand Narrows and Christmas Island	....	....	....	....	47	705	105	1410	525	....	800	2
Boisdale and George's River	....	....	....	....	10	150	22	350	175	....	150	
Little Bras d'Or to Lloyd's Cove	6	110	2000	32	52	950	98	2780	850	....	1080	3
North Sydney to Ball's Creek	....	....	....	....	15	350	35	1750	650	....	....	1
Totals	9	152	2880	46	782	21963	1485	70680	31443	20	16610	171

DISTRICT No. 1.

he Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, Province of Nova Scotia, for the Year 1892.

Kinds of Fish.													Fish Products.			Value.
Herring, barrels.	Herring, smoked, lbs.	Alewives, barrels.	Cod, cwt.	Hake and Pollack, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	$ cts.
68		26	980		150	1600		500	1800	40		20965	490	40	245	11,240 60
20		20	350		35	2600		2000	1800	26			175		85	2,899 00
85		10	500		50	4400		400	2500	20		13583	250	15	125	6,747 62
206	1000	90	30		5	200		3000	5000	35			15		8	2,598 50
280			1860		60			150				138192	830		300	40,903 88
		50					2	130	800							378 00
50		6	25					100		10	40		12		6	608 30
87		20	70					130		13	11		30		17	1,010 00
43		18	126					400	100	70			63		30	1,656 70
60		12	129					40		5			64		32	1,032 10
200		29	587					220	700	3			293		122	4,143 20
40		10	75						200	10			37		16	731 30
100		15	120						100	4			19		7	1,120 60
250			1390	75	350							31344	1200		264	19,414 16
240		5	1000	60	325								950		250	11,817 00
75			180	10	45								160		30	2,144 00
150			640		160	800							550		80	5,247 00
175			1075	20	215	2000						31200	1000		172	12,395 50
25			1025		250							13680	975		35	8,097 70
126			350	20	140	800							325		70	3,427 00
160		223	860	10	240	600		300	1000	6	4		800		140	8,989 50
225		50	1650		75			425	1000	20			425		350	10,352 50
75		25	375		10			250	500				70		75	2,393 00
450			1750		225	1800		350	400	15		29250	375		375	16,516 00
175			350		75	600			1000	10			75		60	3,095 00
3365	1000	609	15497	195	2410	15400	2	8395	16900	287	55	278214	9183	55	2894	178,958 16

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						
	Vessels.				Boats.			Nets.		Weirs.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, in cans, lbs.
Inverness County.			$			$			$		$			
Port Hood					81	1620	203	10560	4800				500	480
Little Mabou					16	160	32	1200	400					
Seaside					16	240	40	3600	1100					
Little Judique					25	300	70	3800	1200					
Judique					30	360	66	3000	1000					
Long Point					26	350	52	2240	820				2500	
Creignish					19	200	25	1100	400				3800	
Low Point					20	200	34	2800	980					
Port Hastings	2	47	1200	10	31	400	45	1980	720					
Port Hawkesbury	3	158	4500	36	32	750	64	4800	1440					
Mabou Harbour					5	100	12	220	100				500	
Mabou Coal Mines					8	150	16	254	120				700	
Port Bain					13	200	30	660	300					
Whycocomagh					6	85	12	125	75				2800	
Trout Brook and East Lake														
West Bay					17	255	36	1100	450					
North Mountain					40	600	90	5000	2000					
Malagawatch					42	630	95	3000	1000					
Boom					30	450	60	2200	800					
Basin, River Dennis					16	250	38	660	230					
River Inhabitants					4	48	8	300	125					
S. S. Whycocomagh					7	100	20	700	290					
River Dennis					5	75	10	200	80					
Orangedale					22	330	50	1440	600					
Seal Cove					6	90	12	360	137					
Delaney Cove					7	280	21	860	240					
Doucett's Cove					6	220	18	700	193				380	
East Margaree					28	1400	94	3420	2900				694	
West Margaree	1	15	200	6	6	240	20	1300	1360				41832	
Margaree Forks													240	
Margaree River										48	400		426	
Margaree Island					22	580	46	1450	360					
Broad Cove Marsh					8	220	20	400	100					
Broad Cove Shore					10	210	16	560	145					
Coal Mines and Whale Cove					6	138	12	260	230					
Lake Outlet and Loch Bain														
Eastern Harbour	4	126	1600	29	88	10680	274	2725	1755				7900	200
Cheticamp Point					48	4000	163	1000	500			6		
Mill Brook					8	200	24	300	200					
Grand Etang					20	1000	66	500	500				4000	
Friar's Head					20	1050	68	600	550				6000	
Pleasant Bay					19	1800	54	300	250					1200
Totals	10	346	7500	81	813	29961	2010	65674	28450	48	400	6	72272	1880

The Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.															Fish Products.			Value.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Hake and Pollack, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Bass, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
250	280	...	1600	800	600	400	....	...	600	250	1400	20	....	42557	1500	340	..	24,629 98
20	60	....	100	70	180	40	....	....	100	20	400	....	....	.....	50	20	..	1,600 00
80	100	..	180	300	500	60	....	....	.....	50	200	....	....	27812	360	50	..	8,062 68
60	260	...	280	100	80	60	....	....	400	40	1000	30	...	.....	160	40	..	4,494 00
25	240	20	160	....	....	20	....	....	1000	20	400	10	....	22604	40	30	..	5,835 56
25	200	10	180	....	....	40	....	....	800	....	.....	....	....	7390	50	30	..	3,924 60
30	100	20	200	....	....	24	....	....	.....	.....	.....	.....	.....	.....	40	20	..	2,750 00
15	100	30	140	....	....	20	....	....	.....	.....	.....	.....	.....	.....	20	50	..	1,578 00
30	400	20	200	....	....	26	....	....	200	....	2000	35	....	5573	25	50	..	4,636 22
950	800	50	600	30	....	40	....	....	400	....	800	15	....	8877	1000	160	..	22,167 78
8	25	5	60	10	20	10	150	100	400	10	1500	10	7	.....	.....	10	..	1,020 00
10	25	....	40	10	20	8	50	....	500	6	2000	....	....	2928	40	20	..	1,269 42
12	50	....	60	....	....	10	50	....	....	10	3500	....	....	7344	25	60	..	2,048 16
....	....	....	65	....	....	....	....	....	1200	....	2400	20	60	....	30	12	..	1,490 50
....	....	....	....	....	....	....	....	....	15000	....	....	....	....	.....	.....	....	..	1,500 00
..	1000	....	120	....	....	....	....	....	250	....	1000	40	....	....	....	....	50	5,540 00
30	1000	....	1500	....	....	....	....	....	150	....	3000	60	....	....	.....	2000	..	15,435 00
....	800	...	200	....	....	....	....	....	200	....	.....	50	300	.....	..	....	..	5,920 00
....	400	....	300	....	....	....	....	....	1000	....	.....	....	30	....	.....	....	..	3,340 00
....	160	...	345	....	....	....	....	....	3000	....	3000	80	100	....	.....	....	..	3,822 50
....	....	....	....	....	....	....	....	....	3000	....	2000	50	....	.....	.....	....	..	900 00
....	150	....	.....	....	....	....	....	....	3000	....	2000	50	....	....	.....	....	..	1,575 00
....	....	50	.....	....	....	....	....	....	4000	....	8000	....	150	.....	.....	....	..	1,475 00
....	200	....	200	....	....	....	....	....	....	....	....	....	300	....	....	....	..	2,700 00
....	20	....	.....	....	....	....	....	....	.....	....	3000	75	100	.....	.....	....	..	1,290 00
20	30	....	392	....	....	30	....	....	....	14	.....	....	....	.....	146	24	..	2,434 40
31	26	...	314	....	....	29	....	....	....	12	.....	....	....	.....	120	18	..	2,264 50
115	200	50	2100	....	....	194	400	....	400	40	....	10	....	.....	680	75	..	13,727 30
19	80	434	1380	117	200	160	1400	..	240	20	.....	4	....	7776	1200	50	..	20,094 04
....	14	186	....	....	....	....	....	..	300	....	....	....	....	.....	.....	....	..	978 00
....	....	628	....	....	....	....	....	....	1040	....	.....	6	....	....	.....	....	..	3,075 20
300	500	....	146	20	....	48	430	....	.....	50	....	....	....	.....	160	120	..	7,822 00
40	80	8	100	....	....	23	....	....	....	12	....	....	....	7152	40	60	..	2,641 78
18	74	12	80	....	....	24	....	....	.....	10	....	....	....	....	100	20	..	1,193 00
9	16	....	60	....	....	6	....	....	....	5	.....	....	....	18720	12	146	..	3,353 60
....	....	150	....	....	....	....	....	....	1100	....	.....	18	....	.....	.....	....	..	965 00
206	....	....	7727	....	....	205	....	....	....	420	....	....	....	37440	3420	190	..	48,557 60
25	....	....	6400	....	....	100	....	....	....	500	.....	....	....	.....	3000	200	..	33,096 00
16	....	....	350	....	....	100	....	....	.....	100	.....	....	....	19200	100	5	..	5,284 50
110	....	....	4750	....	....	100	....	....	.....	180	.....	....	....	.....	500	110	.	25,150 00
120	....	....	1200	....	....	150	....	....	....	200	.....	....	....	2880	600	200	..	10,548 20
250	....	....	4750	....	....	20	....	....	.....	150	.....	....	....	20352	80	100	..	28,756 28
2824	7390	1673	36279	1457	1600	1947	2480	100	38280	2119	37600	583	1047	238605	13498	4210	50	338,945 80

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.		
	Vessels.				Boats.			Nets.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Salmon, fresh, in ice, lbs.
Richmond County.			$			$			$	
Arichat	3	88	880	18	53	424	62	6960	1740	100
Cape Auguet	....	....	....	....	71	568	81	18040	4510	....
Petit de Grat	3	83	830	15	120	960	160	12000	3000	....
Rocky Bay	....	....	....	....	32	256	54	7780	1945	....
Poulimond and D'Escousse	5	168	1680	47	11	88	14	1960	490	....
Lower D'Escousse	7	319	3190	80	23	184	38	3960	990	....
West Arichat	1	13	130	2	67	496	80	9500	2375	....
Grandique	....	....	....	....	22	176	27	3320	830	....
St. Peters	2	50	600	14	16	250	20	2260	650	....
River Bourgeoise	26	659	10000	190	18	144	21	3400	1200	....
Grandique Ferry and Port St. Lewis	....	....	....	....	33	660	66	6600	1650	....
River Inhabitants and Basin	4	131	1300	15	104	1112	138	24000	5920	....
Port Malcolm and Strait of Canso	9	400	4500	60	240	2400	449	7000	2800	....
West Bay	....	....	....	....	80	800	160	4800	1920	....
St. Peter's East	....	....	....	....	10	120	22	2000	500	....
Grand Grave	....	....	....	....	19	228	40	5760	1440	....
Rockdale	....	....	....	....	38	460	78	10880	2720	....
Upper L'Ardoise	1	12	200	3	61	1325	170	13800	3105	....
Lower L'Ardoise	1	11	150	4	40	665	85	9720	2430	1963
Point Micheau	....	....	....	....	8	72	16	960	192	....
Gravel River	....	....	....	....	22	396	47	6600	1650	2000
L'Archevêque	....	....	....	....	14	352	30	2680	605	....
Framboise	....	....	....	....	21	420	46	2940	665	....
Fourchu	....	....	....	....	20	550	60	2440	610	....
Totals	62	1934	23460	448	1143	13106	1964	169660	43937	4063

The Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.											Fish Products		Value.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Hake and Pollack, cwt.	Haddock, cwt.	Halibut, lbs.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, brls.	$ cts.
425	772	6	1689	....	....	223	.....	10607	....	15936	80	....	20,645 39
134	1175	...	2050	....	11	970	.....	.....	....	24000	150	....	23,236 50
93	590	1	3546	....	275	506	.....	.....	....	70740	300	....	32,538 10
186	300	3	822	....	....	127	.....	.....	....	.....	30	....	8,123 00
18	170	3	84	....	....	2	.....	.....	....	.....	900	....	1,775 50
210	730	3	2518	....	....	33	3700	.....	....	63200	1420	....	27,471 00
202	734	78	685	....	....	226	.....	.....	....	45120	50	....	16,692 30
65	260	1	134	....	....	30	.....	.....	12	.....	20	....	2,920 50
125	130	...	500	....	....	.....	.....	.....	10	.....	175	....	4,755 00
50	250	8	4000	....	....	100	....	.....	....	13920	2500	....	23,159 80
300	600	20	600	....	....	50	.....	14000	50	.....	250	....	11,165 00
752	2000	700	2980	....	....	2580	.....	8000	20	.....	750	8	46,030 00
1050	2200	520	2500	20	....	500	.....	.....	....	9000	550	510	42,385 00
....	400	10	400	....	....	.....	.....	.....	10	.....	150	....	3,805 00
160	100	.....	.....	....	....	.....	.....	.....	....	.....	.....	6	2,699 00
270	360	12	.....	....	....	.....	.....	.....	....	.....	.....	12	5,472 00
460	478	38	94	....	....	52	.....	.....	....	40656	45	26	15,115 84
760	528	120	714	....	....	294	.....	.....	....	28176	350	26	21,921 64
465	300	70	200	....	....	230	.....	.....	....	.....	150	30	10,377 60
60	70	6	40	....	....	6	.....	.....	....	21984	15	10	4,481 76
460	208	8	100	....	....	8	.....	.....	6	.....	30	6	8,371 00
142	116	6	150	....	....	8	....	.....	10	33600	40	20	8,090 00
220	88	16	308	....	....	.....	2500	.....	7	14400	80	....	7,302 00
109	22	8	520	....	....	12	1000	.....	....	57600	160	100	12,421 00
6716	12581	1637	24634	20	286	5957	7200	32607	125	438332	8195	754	360,953 93

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, lbs.
Victoria County.			$			$			$				
Englishtown					27	370	54	3,889	1,759	16	2	223	
Eel Cove					12	168	24	600	240			14	
Black Head					8	126	8	775	310	10	1	42	
Bird Island					4	56	2	300	120		1	2	
Barachois					18	396	28	1,810	748	6	2	62	
Black Rock, north shore					10	240	10	1,000	400		20	40	
Big Harbour					8	80	8	200	80			24	
Breeding Cove					12	144	16	1,100	440		36	48	
Cape Dauphin					22	308	44	1,100	440		2	40	
French River					20	280	40	2,500	1,000		40	80	
Goose Cove					6	84	12	600	240			24	
Graphin					8	160	16	800	320		4	4	
Indian Brook					15	210	30	1,125	449		150	180	
Little River					20	280	22	2,000	800		30	110	
Munroe's Point					14	196	28	1,400	260	3		70	
North River					30	420	40	2,250	900	2		120	
New Campbellton					26	364	52	1,300	520		2	40	
N. side Big Bras d'Or					22	308	44	1,100	440		2	20	
S. side Big Bras d'Or					32	448	64	1,300	520	7	4	80	
South Gut					3	42	6	200	80			12	
South Bay, Ingonish					114	2,850	228	7,950	3,180	56	212	112	
Smoky					4	56	4	300	120		20	22	
Rocky side, St. Ann's					8	96	14	600	240		1	16	
Path End					6	240	6	450	180	14	30	40	
Wreck Cove					20	280	20	2,000	800	2	60	100	
North Gut					8	112	16	600	240	1		32	
Meat Cove					12	240	24	690	350		25	24	
Wreck Cove					13	260	28	854	425	7	36	40	
Bay St. Lawrence Pond					38	760	84	1,760	875		65	45	
North Harbour					31	620	68	1,834	962	15	190	48	
White Point					49	980	100	3,500	1,840	19	84	75	
New Haven					34	1,350	70	2,340	1,200		20	25	
Neil's Harbour					40	16,000	80	2,830	1,560	4	26	32	
Green Cove					28	560	54	1,400	826	6	18	35	
North Bay, Ingonish					155	2,325	220	3,450	1,820	6	75	20	
Ingonish Island					8	160	16	368	145		8	9	
Baddeck					12	124	15	497	172	9		52	
Washabuck					11	205	18	440	110	1		54	
Grand Narrows	2	67	700	6	65	1,135	158	2,615	784	4	23	559	
S. side Little Narrows					26	230	30	780	195		4	112	
N. side Little Narrows					14	112	14	280	80	1		8	
Kempt Head, Boularderie					19	228	32	570	252			91	
Totals	2	67	700	6	1,032	33,603	1827	61,457	26,422	189	1,193	2,786	

The Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.										Fish Products.			Value.
Alewives, barrels.	Cod, cwt.	Hake and Pollack, cwt.	Haddock, cwt.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
	100	70			36				2,400	50	12		2,465 50
	3												76 50
	87		13		10					43	6		866 20
	20				2					10	2		128 00
	19		6		10					9	18		580 10
	100		8		30					50	20		1,108 00
													108 00
	80		30		46					40	24		1,421 00
	40				40					20	44		622 00
	200		60		40					100	40		2,290 00
	5				3						2		145 50
	10				8						7		161 50
	84		50		40					42	30		3,684 80
	140		80		70				6,240	70	60		3,096 60
	7				14						7		461 00
	30				30					15	10		848 00
	250		50		40					125	52		1,796 00
	150		50		30					75	44		1,184 00
	80		20		30					40	64		1,190 00
	1				25						1		160 00
	3,180				1,060				28,848	1,590	684		28,618 72
	30		10		10					15	8		607 00
	2				4						2		114 00
	50		20		18					25	12		1,219 00
	140		70		40					70	40		2,445 50
	4				16					2	2		245 80
	275									175	30		1,810 50
	300									200	32		2,274 00
	850									500	58		5,224 50
	1,000									700	60		7,986 00
	1,900									1,360	85		11,039 00
	2,500								7,200	1,700	108		13,492 50
	2,720								7,680	1,800	125		14,794 70
	950								3,888	475	45		5,582 32
	4,200								4,848	2,000	190		21,899 72
	175									80	20		1,002 00
	65			1,200	2	600	12	90		10	2		1,225 50
16	151			1,000		450	9	114		24	6		1,583 60
99	2,736					850	13	1,170		334	174		19,731 60
138	192			800				107			22		2,479 00
82	10			800		1,300	28	48		22	2		1,046 80
12	150		30			1,000	5				18		1,370 50
347	22,985	70	497	3,800	1,654	4,200	67	1,529	61,104	11,771	2,168		168,184 46

RECAPITULATION

Of the Yield and Value of the Fisheries of the Island of Cape Breton for the Year 1892.

Kinds of Fish.	Quantities.	Rate.	Value.
		$ cts.	$ cts.
Salmon, pickled	Brls.	215	16 00	3,440 00
do fresh, in ice	Lbs.	92,945	0 20	18,589 00
do preserved	Cans.	1,880	0 15	282 00
Mackerel, pickled	Brls.	12,450	14 00	174,300 00
Herring, pickled	do	26,122	4 50	117,549 00
do smoked	Lbs.	1,000	0 02	20 00
Alewives	Brls.	4,266	4 50	19,197 00
Cod, dried	Cwt.	99,395	4 50	447,277 50
Cod tongues and sounds	Brls.	20	10 00	200 00
Hake and pollack	Cwt.	2,008	3 00	6,024 00
Hake sounds	Lbs.	1,600	0 50	800 00
Haddock	Cwt.	10,811	3 50	37,838 50
Halibut	Lbs.	25,080	0 10	2,508 00
Shad	Brls.	2	10 00	20 00
Bass	Lbs.	100	0 06	6 00
Trout	do	50,475	0 10	5,047 50
Squid	Brls.	3,773	4 00	15,092 00
Smelts	Lbs.	91,307	0 05	4,565 35
Eels	Brls.	1,062	10 00	10,620 00
Oysters	do	2,631	3 00	7,893 00
Lobsters	Cans.	1,016,255	0 14	142,275 70
Fish oil	Galls.	42,647	0 40	17,058 80
Fish guano	Tons.	55	25 00	1,375 00
Fish used as bait	Brls.	10,026	1 50	15,039 00
Fish used as manure	do	50	0 50	25 00
Total				1,047,042 35

Comparative Statement of the Value of the Fisheries for the four Counties of the Island of Cape Breton, for the Years 1891 and 1892.

Counties.	1891.	1892.	Decrease.	Increase.
	$ cts.	$ cts.	$ cts.	$ cts.
Cape Breton	196,222 66	178,958 16	17,264 50	
Inverness	343,701 48	338,945 80	4,755 68	
Richmond	298,763 80	360,953 93		62,190 13
Victoria	248,033 96	168,184 46	79,849 50	
Total	1,086,721 90	1,047,042 35	101,869 68	62,190 13
Decrease			39,679 55	

TABLE showing the Number and Value of Vessels and Boats, Nets and Seines, &c., engaged in the Fisheries of the Island of Cape Breton, and the Approximate Estimate of the Value of other material not included in Returns for 1892.

Materials.	$ cts.	$ cts.
83 vessels, 2,499 tons	34,540 00	
3,770 boats	98,633 00	
367,471 fathoms of nets	130,252 00	
		263,425 00
52 canning establishments	50,100 00	
85,870 lobster traps	77,283 00	
Seines	2,000 00	
Hand-lines, trawls, &c	33,000 00	
Steamers, smacks, punts, canoes, &c	12,500 00	
Fishing piers, houses and other sundries	53,500 00	
Fish trap nets and weirs	3,500 00	
		231,883 00
Total		495,308 00

NOVA SCOTIA—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the the Total Number of Men employed, &c., in the

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, lbs.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.				
Antigonish.			$			$			$				
Harbour au Bouche and Little Tracadie	1	12	200	3	40	760	73	15000	1600	4000	200	1200	
Big Tracadie and East Bayfield					30	420	43	1200	970	600	25	220	
Bayfield, Antigonish Harbour and Morristown					31	450	49	9000	2100	22520	210	170	
Lakeville, Ballentine's Cove and Cape George					38	680	46	11000	1800	8000	80	204	
Georgeville and Malignant Cove					29	450	46	15000	1600	4000	20	60	
Doctor's Brook, Arisaig, Moidart and Knoydart					22	380	48	11000	1400	5000	42	120	
Totals	1	12	200	3	190	3140	314	62200	9470	44120	577	1974	
Value $										8824	8078	8883	
Colchester.													
Sterling					13	190	16	510	217			59	
Stewiacke					22	110	30	276	170	1000			
Five Islands					6	155	18	135	70				
Economy					9	280	52	2875	535	2650		30	16800
Little Bass River and Highland Village					14	480	43	4775	690	4300			
Great Village and Great Village Point					4	120	8	1400	185	2050			
Masstown to Princeport					13	370	24	3775	610	4750			
Totals					81	1705	191	13746	2477	14750		89	16800
Value $										2950		400	672

DISTRICT No. 2.

Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and Province of **Nova Scotia**, for the Year 1892.

Kinds of Fish.													Fish Products.			Value.
Alewives, barrels.	Cod, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Hake Sounds, lbs.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
190	280	220	50	....	.....	....	720	8000	24	....	60000	200	250	300	....	21,712 00
28	52	160	10	....	....	200	1400	2500	42	110	15000	90	70	280	....	5,955 00
20	18	50	....	....	.....	2000	1400	12000	60	15	40000	120	20	320	...	16,183 00
38	470	1250	200	...	.....	700	..	2500	.....	.....	47000	450	520	288	....	17,986 00
10	138	508	120	...	.....	..	...	....	.....	.....	25000	2600	310	170	....	9,139 00
8	150	860	200	....	.. ..	600	1600	3000	....	.....	27050	3500	410	270	....	12,571 00
294	1108	3048	580	...	.....	3500	5120	28000	126	125	214050	6960	1580	1628	....	
1323	4986	9144	2030	....	.....	201	512	1400	1260	375	29967	3480	632	2442	....	83,546 00
...	....	....	....	....	....	.....	....	8568	...	200	16656	...	.....	....	....	3,625 00
60	....	....	....	....	32	900	900	.....	..	.....	.....	.....	.....	...	....	934 00
....	159	....	28	2350	74	.....	150	.....	.....	.....	.....	....	114	....	14	1,857 00
...	25	....	....	...	485	.....	1500	.....	.....	.....	.. ..	. .	....	...	....	6,449 00
...	....	...	...	....	366	.....	.....	....	...	. .	...	...	. . ..	...	....	4,520 00
....	...	....	....	....	68	.....	.....	.....	.....	.....	.....	..	.....	....	....	1,090 00
....	....	....	....	....	141	. ...	.....	.....	... .	.....	.....	.....	....	...	....	2,360 00
60	184	....	28	2350	1166	900	2550	8568	..	200	16656	. ...	114	....	14	
270	828	..	98	235	11660	54	255	428	....	600	2332	.....	46	....	7	20,835 00

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Alewives, barrels.
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.				
Cumberland County.			$			$			$				
Pugwash, Port Philip and Gulf Shore	....	....	....	....	69	2,400	69	1,448	710	100	5	....	....
Wallace	....	....	....	....	65	1,300	85	2,100	525	....	5	400	191
River Philip	....	....	....	....	5	80	8	250	300	4,280	....	....	410
La Planche River and Nappan	....	....	....	....	....	....	....	....	13	600	....	....	145
Minudie to Apple River	....	....	....	....	....	....	12	235	135	600	....	....	9
Advocate	....	....	....	....	5	132	10	261	120	....	37	129	....
Spencer's Island	....	....	....	....	4	80	8	100	40	....	....	33	....
Port Greville	....	....	....	....	4	110	13	120	80	....	3	58	....
Parrsboro'	....	....	....	....	9	407	16	170	230	600	3	55	....
Totals	....	....	....	....	161	4,509	221	4,684	2,153	6,180	53	675	755
Value $	....	....	....	....	....	....	....	....	....	1,236	742	3,038	3,398

he Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.										Fish Products.		Value.
Cod, cwt.	Pollack, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, brls.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish used as bait, brls.	Fish used as manure, barrels.	
												$ cts.
10	.....	.....	.....	.....	.....	26,950	....	27	198,286	509	190	30,237 00
.....	.....	.....	.....	5	1,000	.....	5	600	193,776	1,105	190	33,655 00
.....	.....	.....	.....	9	1,420	1,400	14	.....	.....	.....	.....	3,143 00
.....	.....	....	.....	....	.....	1,800	....	.....	.....	.....	.....	863 00
.....	.....	.....	.....	221	.....	.....	.....	.....	.....	.....	.....	2,370 00
68	27	32	405	.....	.....	.....	....	.....	.....	.....	.....	1,639 00
47	22	26	.....	.....	....	.....	.....	.....	.....	.....	.....	517 00
70	30	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	971 00
127	72	62	4,150	....	.....	.....	.....	.....	.....	.....	.....	1,829 00
322	151	195	4,555	235	2,420	30,150	19	627	392,062	1,614	380	
1,449	453	683	456	2,350	242	1,507	190	1,881	54,888	2,521	190	75,224 00

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.		Weirs.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.
Guysboro' County.			$			$			$		$				
Ecum Secum					32	650	43	550	215				1630		
Marie Joseph					39	980	49	880	220						
Liscombe Bay and Spanish Bay					88	1590	94	1652	583				1420		
Gegoggin Harbour and River					23	233	24	520	136				1100		300
St. Mary's Bay and River	2	58	1300	10	33	418	26	2140	481				8295	375	
Wine Harbour					17	315	23	1830	505			87	2600		
Port Hilford					36	645	36	2455	600						
Holland's Harbour					15	1520	18	1820	550						
Beckerton					58	3760	83	5413	2105						
Fisherman's Harbour					57	3936	77	6000	2820						
Country Harbour and Isaac's Harbour					54	755	58	3680	890				2125		
Isaac's Harbour to New Harbour					156	4795	188	17491	3834	3	30	5			
New Harbour to Whitehead	4	77	1650	17	254	9000	474	58621	11833	1	200	7	1400		
Whitehead to Canso, including Tittle	2	54	1600	11	200	9000	250	27000	6000	30	7500		8000		
Canso, Tittle to Salmon River					264	2250	275	34400	7915	42	4960		7000		
Salmon River to County Line, including Cook's Cove, Guysboro', North Shore and Strait of Canso	8	300	6200	41	438	8760	500	73520	14700	5	100		15000		
Totals	16	489	10750	79	1764	49707	2218	234972	53387	81	12790	99	48570	375	600
Value	$											1584	9714	75	90

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.													Fish Products.			Value.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Pollack, cwt.	Haddock, cwt.	Halibut, lbs.	Bass, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
.....	77	8	166	5	30	1520	...	1800	.....	....	40	42200	90	370	40	8,827 00
3	39	....	631	....	55	1600	...	.....	.....	.....	....	59800	240	380	60	12,578 00
.....	222	117	580	50	139	720	...	3450	.....	9600	..	49000	292	980	50	14,425 00
.....	139	....	151	....	30	75	...	700	.....	3400	....	.....	82	146	....	2,176 00
1	439	....	324	....	20	200	...	2200	.....	4000	20	33700	67	220	35	10,983 00
.....	481	4	70	5	35	.....	...	525	.....	.....	....	...	49	255	...	4,999 00
108	845	92	92	....	.. ..	.....	...	1180	44	.....	....	33600	45	270	35	11,582 00
52	500	..	69	....	....	.....	...	11800	.....	8700	....	....	34	62	...	5,011 00
82	2570	....	831	....	.....	.....	...	1025	.....	.....	....	44900	417	488	45	23,762 00
388	2830	....	1243	....	.. ..	.....	...	5210	20	....	....	.....	643	525	....	25,307 00
19	528	....	73	...	.....	....	...	5400	.....	.....	35	54250	9	475	50	12,666 00
190	2700	30	1334	120	248	3500	...	1800	25	4000	50	103488	684	260	....	38,740 00
2020	5700	650	5500	80	1400	3000	...	2700	600	300	....	275406	4150	1000	30	131,853 00
900	2000	100	3600	40	2500	2000	...	.....	1000	.....	60	239560	2378	800	55	89,237 00
2000	1800	50	2350	10	900	.....	500	1900	1500	3000	....	59904	1390	600	40	67,712 00
4062	9300	520	2800	....	850	.....	...	2100	1550	8000	30	.... .	1180	530	15	128,018 00
9825	30170	1571	19814	310	6207	12615	500	41790	4739	41000	235	995808	11750	7361	455	
137550	135765	7070	89165	930	21724	1262	30	4179	18956	2050	2350	139413	4700	11041	228	587,876 00

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.							
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Salmon, barrels.	Salmon, fresh in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.
Halifax County.			$			$			$						
North Shore	2	60	800	10	204	3820	261	7950	1195	..	2000	....	....	524	....
East St. Margaret's	2	30	600	6	108	1430	106	11000	2600	..	2500	....	....	240	....
Indian Harbour	3	59	1000	15	196	3900	172	26460	4772	..	1800	....	....	623	....
Peggy's Cove	1	16	200	5	41	605	41	5200	1000	..	500	....	...	104	....
Dover	5	84	1850	25	170	2000	122	13000	2600	..	850	....	....	425	...
Prospect	2	34	1000	9	220	3250	230	13600	3500	..	1000	....	....	400	2000
Terrance Bay	6	90	1800	18	170	1700	280	7680	1540	..	.....	.. ..	....	220	....
Pennant	4	48	1800	14	55	3000	120	4000	800	..	.....	....	....	75	....
Sambro	3	57	1800	17	84	1610	156	10850	2170	..	...	....	....	96	....
Ketch Harbour	3	60	1500	18	80	1200	180	8500	2050	..	240	....	....	170	....
Portuguese Cove	..	....	.....	....	90	1375	260	13750	2800	5	4000	....	....	27	....
Herring Cove	11	330	9000	80	75	750	160	7500	1500	1	.....	....	....	1	....
Ferguson's Cove	1	30	500	6	40	550	80	2125	350	..	.. ..	....	....	. ...	....
Bedford	..	....	.....	....	6	110	9	700	250	..	600	....	....	1	....
Halifax	3	80	2100	20	20	500	45	360	80	..	.....	....	...	10	....
Eastern Passage to Three Fathom Harbour	..	....	. ...	....	125	2012	105	34320	2332	..	2880	....	....	121	...
Seaforth to East Chezzetcook	15	560	15500	153	198	2284	68	29060	1954	..	116	...	....	40	....
Petpeswick to Clam Harbour	13	362	11000	99	295	5418	239	47800	3665	..	2510	690	110	153	....
Ship Harbour to Pleasant Harbour	3	80	1200	20	71	1361	78	14100	940	..	120	....	....	35	....
Pleasant Harbour to Taylor's Head	5	162	4200	39	161	3900	209	58080	4130	..	1650	....	...	452	....
Taylor's Head to Beaver Point	3	67	1550	16	43	1092	37	11580	854	..	750	....	....	73	....
Beaver Point to Ecum Secum	..	...	.....	....	87	2512	97	38230	865	..	200	160	....	53	...
Totals	85	2209	57400	570	2539	44379	3055	365845	41947	6	21716	850	110	3843	2000
Value $	..	....	.....	....	....	.....	...	.....	... .	96	4343	170	16	53802	240

n the Fisheries, Quantity and Value of Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.															Fish Products.		Value.
Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Hake Sounds, lbs.	Fresh Lobsters, tons.	Fish Oil, gallons.	Fish used as bait, barrels.	$ cts.
70	20	85	....	130	50	15	....	800	..	....	....	.....	27	....	123	6	9,269 00
180	15	140	...	...	100	55	400	300	..	..	....	.....	58	....	140	30	6,060 00
880	30	1135	....	93	510	340	2000	....	..	....	....	.....	250	....	856	215	22,273 00
220	5	250	....	10	75	25	.....	....	..	.....	....	.....	38	....	160	10	4,133 00
420	15	400	....	100	550	200	.....	...	..	.....	....	.....	275	....	650	50	12,999 00
620	40	2075	...	160	230	95	300	....	..	.....	....	12000	130	...	1260	258	22,515 00
280	20	5240	....	60	300	100	5000	....	..	....	....	10000	180	....	2500	100	32,580 00
100	..	1000	....	30	300	150	2000	300	..	.. ...	....	24000	180	....	650	80	11,575 00
130	....	1220	...	90	140	50	.....	....	..	.....	....	100800	69	....	600	10	22,685 00
230	30	400	...	700	160	100	1000	....	..	.....	....	.....	90	...	1080	30	8,950 00
130	....	1020	....	...	.....	50	..	....	..	.....	....	....	....	....	570	10	6,827 00
110	..	2500	....	60	200	300	100000	....	10	.. ....	....	.....	90	.. ..	1300	100	24,360 00
40	....	165	....	5	20	10	500	....	2	...	....	.....	.. .	....	95	5	1,136 00
..	....	12	....	. .	.....	....	.....	....	..	.....	2	.. ..	....	....	.....	....	208 00
20	....	340	...	....	50	20	.. ..	1000	..	.....	....	.....	....	140	200	10	5,675 00
468	33	1166	30	239	3	300	6000	900	3	2000	11	. ....	..	....	446	96	13,083 00
447	131	6174	160	61	.....	329	2370	970	2	3700	14	.....	....	.....	2016	440	36,036 00
1694	52	5651	201	662	355	316	13818	3200	..	11000	68	100584	400	....	1889	351	60,748 00
990	104	916	...	65	189	105	594	....	..	.....	7	29480	234	....	268	56	15,254 00
1430	17	1869	....	95	1106	179	5598	1250	..	.....	15	134468	620	....	686	101	46,207 00
420	7	425	....	11	216	69	979	300	..	.. .	....	104200	265	....	141	20	20,863 00
720	....	610	....	18	14	44	1665	800	..	.....	....	303404	....	....	256	32	49,923 00
9599	519	32793	391	2589	4568	2852	142224	9820	17	16700	117	818936	2906	140	15826	2010	
43196	2336	147569	3910	7767	13704	9982	14223	982	68	835	1170	114651	1453	3500	6330	3015	433,359 00

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				
	Vessels.				Boats.			Nets.		Weirs.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.
Hants County.			$			$			$		$	
Shubenacadie River, Maitland, to Shubenacadie					33	256	33	1750	375			9850
Shubenacadie to Grand Lake					53	156	53	1000	213			860
Maitland to Noel and Walton					15	475	21	5280	1480			1400
West Hants					15	655	21	2115	740	6	220	1125
Totals					116	1542	128	10145	2808	6	220	13235
Value $												2647
Pictou County.												
West Pictou					138	2208	178	630	275			300
Pictou Island					44	638	88	420	120			
Central Division												
Southern Division					24	580	41	1739	1285			14270
Merigomish Island					13	195	25	1010	560			10200
North Beach					4	60	6	950	350			7800
Pond					14	210	29	850	300			10200
Lismore					4	60	6	610	275			3800
Totals					241	3951	373	6209	3165			46570
Value $												9314

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.															Fish Products.		Value.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Pollack, cwt.	Hake and Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
....	.....	163	200	....	....	200	....	207	.. .	.....	.. ...	. ..	....	.... .	.....	...	6,374 00
....	... .	115	.....	.. .	...	....	....	.....	...	.....	.....	....	...	.....	....	..	689 00
....	.....	.....	.....	....	....	....	....	38	3970	.....	.....	...	....	....	.....	...	898 00
. ..	47	70	123	4	....	2	150	165	4100	3625	. ...	....	....	.....	.....	....	3,599 00
. .	47	348	323	4	....	202	150	410	8070	3625	.....	....	...	. ..	. ..	...	
...	212	1566	1454	12	....	707	15	4100	484	363	.....	...	....	....	.....	....	11,560 00
15	150	20	30	....	...	....	....	.....	. ...	350	20000	60	10	429168	350	420	63,653 00
....	256	.. ..	10	...	....	....	....	....	.....	.....	....	...	....	184320	200	180	27,392 00
....	.....	.....	.....	....	....	....	....	.....	300	500	10000	150	175	.....	.....	...	2,593 00
9	315	.....	62	....	....	....	..	....	.....	.....	.....	....	....	23404	50	220	8,139 00
....	110	.....	... .	....	300	....	...	.....	.....	....	.....	10	8	80000	100	75	14,947 00
. ..	.....	.....	.....	....	..	....	....	.....	.....	.....	.....	...	....	.....	...	....	1,560 00
....	50	.....	.....	...	....	....	....	.....	....	.....	.... .	....	.. .	166749	50	160	25,765 00
..	.....	.....	.....	...	....	....	...	.....	.....	. ...	....	...	....	. ..	. ...	....	760 00
24	881	20	102	....	300	...	....	.....	300	850	30000	220	193	883641	750	1055	
336	3965	90	459	....	900	....	....	....	18	85	1500	2200	579	123710	1125	528	144,809 00

RECAPITULATION

Of of the Yield and Value of the Fisheries in District No. 2, **Nova Scotia,** with a Comparative Statement of the Increase or Decrease for the Years 1891 and 1892.

Kind of Products.	Quantities in 1892.	Rate.	Value in 1892.	Total.	Increase.	Decrease.
		$ cts.	$	$	Qty.	Qty.
Salmon, pickled ..... Brls.	105	16 00	1,680	.....	.....	380
do fresh, on ice ..... Lbs.	195,141	0 20	39,028	.....	44,968	
do smoked ..... "	1,225	0 20	245	.....	.....	3,330
do in cans ..... Cans.	710	0 15	106	41,059	.....	330
Mackerel, pickled ..... Brls.	14,322	14 00	200,508	.....	.....	12,802
do in cans ..... Cans.	2,000	0 12	240	200,748	.....	4,000
Herring, pickled ..... Brls.	43,435	4 50	195,459	.....	12,483	
do smoked ..... Lbs.	16,800	0 04	672	196,131	2,400	
Alewives ..... Brls.	3,567	4 50	.....	16,053	.....	1,066
Cod ..... Cwt.	54,646	4 50	.....	245,910	.....	16,999
Cod tongues and sounds. ... Brls.	391	10 00	.....	3,910	.....	
Pollack ..... Cwt.	3,054	3 00	.....	9,162	955	
Hake, dried ..... "	7,916	3 00	.....	23,748	.....	612
do sounds ..... Lbs.	9,866	0 50	.....	4,933	.....	3,444
Haddock ..... Cwt.	10,064	3 50	.....	35,224	.....	7,372
Halibut ..... Lbs.	161,894	0 10	.....	16,191	46,977	
Shad ..... Brls.	1,811	10 00	.....	18,110	633	
Bass ..... Lbs.	13,270	0 06	.....	796	8,370	
Trout ..... "	66,175	0 10	.....	6,618	.....	15,090
Squid ..... Brls.	4,756	4 00	.....	19,024	1,306	
Smelts ..... Lbs.	154,418	0 05	.....	7,720	.....	73,578
Eels ..... Brls.	717	10 00	.....	7,170	378	
Oysters ..... "	1,145	3 00	.....	3,435	435	
Lobsters, cans ..... Lbs.	3,321,153	0 14	.....	464,961	.....	490,618
do sold fresh ..... Tons.	140	25 00	.....	3,500	.....	16½
Fish oil ..... Galls.	29,270	0 40	.....	11,708	.....	10,924
Fish used as bait ..... Brls.	13,363	1 50	.....	20,144	2,853	
Fish products used as manure "	1,904	0 50	.....	953	.....	536
				1,357,208		

Comparative Statement of Value of Fisheries in each County of District No. 2, **Nova Scotia,** for the Years 1891 and 1892.

County.	Value in 1891.	Value in 1892.	Increase.	Decrease.
	$	$	$	$
Antigonish	73,461	83,546	10,085	
Colchester	14,190	20,835	6,645	
Cumberland	77,700	75,224	.....	2,476
Guysborough	559,737	587,876	28,139	
Halifax	751,194	433,358	.....	317,836
Hants	4,017	11,560	7,543	
Pictou	160,613	144,809	.....	15,804
			52,412	336,116
				52,412
			Decrease..	283,704

TABLE showing the Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of District No. 2, **Nova Scotia,** with an Approximate Value of other Fishing Material for the Year 1892.

—		Value.
		$
102 vessels, 2,710 tons		68,350
5,092 boats		108,933
697,801 fathoms of nets		115,407
87 weirs		13,010
35,660 fathoms of seines		14,264
		319,964
95 canning establishments	$ 115,540	
133,440 lobster traps	53,376	
		168,916
Wharves and piers		22,100
Ice-houses, for preserving bait and fish		12,140
Trawls, hand-lines and implements		21,500
Total		544,620

NOVA SCOTIA—

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in and the Total Number of Men employed, &c., in the

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.		Weirs.					
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, smoked, lbs.
Annapolis County.			$			$			$		$				
South Side of Basin	2	26	780	10	22	440	44	400	200	6	1200		100	100	50000
Margaretsville	4	92	2760	24	15	940	29	2200	1100			150	20	800	
Port George	1	16	480	4	16	320	32	1650	805	1	200	1900	55	900	
Port Lorne and Hampton					28	560	42	4100	2050					1500	
Phinney's Cove					14	280	20	1600	800					400	
Parker's and Young's Cove					34	680	44	2500	1250				12	1510	
Litchfield and Hillsboro'					19	380	46	1144	570				10	410	
Thorne's Cove to Gut	6	293	7850	70	46	920	69	2960	1450					100	
Thorne's Cove to Ferry					12	240	20			3	450			50	
East to County Line								250	250	3	300	3400			
Lequille River, Round Hill and Inland Lakes												5500			
Totals	13	427	11870	108	206	4760	346	16804	8475	13	2150	10950	197	5770	50000

DISTRICT No. 3.

ne Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, Province of **Nova Scotia,** for the Year 1892.

Kinds of Fish.												Fish Products.				Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	
																$ cts.
...	680	5	400	200	580	5000	....	.....	.....	....	....	255	20	100	500	11,192 00
...	420	6	401	150	110	3500	....	....	.....	....	....	220	25	500	100	9,261 00
...	195	3	204	100	100	2900	....	.....	.....	....	....	200	30	459	....	8,719 00
...	475	5	210	190	100	5000	....	...	.....	....	..	150	40	510	....	12,302 50
...	150	2	55	70	60	1000	....	.....	.....	....	.. .	112	14	305	....	3,727 30
...	320	4	178	200	180	1000	....	.....	...	....	.. .	112	25	510	....	11,231 80
..	300	4	100	210	220	1500	....	....	.....	....	....	100	20	210	....	5,870 00
...	3900	16	890	1500	3610	1500	....	.....	.....	....	....	850	45	1400	....	41,630 00
...	20	....	10	3	20	.....	....	...	.....	....	....	....	9	7	....	652 50
25	.....	....	.....	.....	.....	.....	30	2500	1500	1500	7	....	...	....	....	1,537 50
90	.....	....	.....	.....	....	.....	....	500	7000	....	10	....	...	....	....	2,335 00
115	6460	45	2448	2623	4980	34900	30	3000	8500	1509	17	1999	228	4001	600	108,458 60
												Lobsters shipped alive, 24 tons at $40.....				960 00
																109,418 60

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						
	Vessels.				Boats.			Nets.		Weirs and Traps.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.
Digby County.			$			$			$		$			
Digby	21	1026	29800	337	6	150	10	240	120	....	.....	....	1000	....
Bay View	....	....	.....	....	5	125	10	200	100	....	.....	....	....	...
Broad Cove	....	....	.....	....	9	225	18	360	180	....	.....	....	....	....
Gulliver's Cove	....	....	.....	...	10	250	19	450	225	....	.....	160	175	50
Waterford	....	...	.....	....	6	150	11	450	225	2	120	...	639	60
Centreville	..	....	.....	....	17	425	34	850	425	....	.....	200	200	....
Sandy Cove	....	....	....	....	7	175	13	420	210	3	900	150	180	....
Mink Cove	1	34	1200	9	7	175	14	450	225	1	1000	....	600	....
Little River	1	11	540	5	17	425	34	680	340	2	600	....	442	...
White Cove	....	....	.....	....	3	75	6	180	90	....	.....	...	....	....
Whale Cove	....	....	.....	...	8	200	16	400	200	....	.....	....	....	....
East Ferry	1	10	350	5	7	175	14	420	210	2	150	....	55	80
Smith's Cove	....	....	....	....	....	....	....	.....	.....	14	730	....	....	100
St. Mary's Bay	....	....	.....	....	....	....	....	.....	.....	11	1900	....	1500	150
Weymouth	....	....	...	....	12	300	24	480	240	2	3800	....	950	90
White's Cove	....	....	.....	....	30	750	60	2400	1000	1	900	....	500	....
Belliveau's Cove	...	....	.....	....	10	250	20	400	200	2	120	....	35	....
Church Point	2	26	600	9	5	125	10	200	100	1	60	....	40	75
Meteghan	....	....	.....	....	13	325	26	520	260	2	120	....	35	....
Cape St. Mary's	....	....	.....	....	12	300	29	900	450	....	.....	....	100	250
Westport	23	470	18000	156	26	800	65	16000	8000	....	.....	....	1000	2500
Freeport	8	140	4000	40	60	1000	120	8000	3500	....	.. ..	....	1100	975
Tiverton	7	150	5000	55	25	500	50	6500	3500	.. .	.....	....	200	300
Totals	64	1867	59490	616	2 95	6900	603	40500	19800	43	10400	510	8751	4630

theFisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.											Fish Products.			Value.
Herring, smoked, lbs.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Squid, barrels.	Lobsters, cans.	Hake Sounds, lbs.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
.....	5270	...	222	8730	11795	474000	....	....	12000	7300	4560	3940	1620	163,187 50
.....	60	....	50	175	100	.....	....	...	.....	250	200	75	150	1,612 50
.....	180	...	.....	270	180	.....	....	....	.....	360	360	112	270	2,441 00
.....	120	....	40	450	300	.....	....	....	.....	350	400	120	350	6,337 00
....	90	....	.....	350	180	.....	....	....	.....	200	240	72	120	11,593 00
.....	420	....	.....	1360	680	.....	....	....	7488	2380	1460	510	850	14,692 32
.....	105	...	40	350	175	.....	....	....	.....	280	520	175	140	5,310 50
.....	235	....	175	1000	275	.....	....	....	.....	1275	660	240	1030	15,481 50
.....	229	....	.....	1475	1850	.....	....	....	.....	2510	1360	340	1550	20,862 50
.....	36	...	...	120	75	.....	....	....	.....	225	120	30	125	1,022 50
.....	200	....	.....	1200	200	.....	....	....	.....	1600	960	240	280	6,644 00
.....	155	....	140	350	210	.....	....	....	.....	525	390	125	280	4,653 50
20000	.....	....	.....	.....	.....	.....	....	....	.....	.....	.....	.....	.....	850 00
...	.....	....	.....	.....	.....	.....	75	....	.....	.....	.....	.....	.....	22,425 00
.....	40	....	.....	.....	360	.....	....	....	.....	.....	.....	35	375	15,350 00
.....	.....	....	.....	.....	720	.....	....	...	.....	.....	.....	70	450	9,780 00
.....	50	....	.....	.....	70	.....	....	....	....	.....	.....	15	.....	967 50
.....	160	...	50	.....	115	.....	....	....	.....	.....	.....	50	100	2,245 00
.....	65	....	40	.....	114	.....	12	....	.....	.....	...	25	150	1,509 00
.....	75	....	150	....	75	.....	....	....	.....	.....	....	75	150	3,687 50
.....	24500	45	20000	11200	18500	65000	....	50	.....	5000	32000	4500	500	318,800 00
.....	13600	25	10500	7500	12500	32000	....	45	.....	1500	13000	2000	750	189,692 50
.....	3800	20	4800	1500	2800	8000	....	50	.....	300	3200	1500	250	53,455 00
20000	49318	90	36207	36030	51274	579000	87	145	19488	24055	59430	14249	9490	872,599 32
														38,121 60
														8,000 00
														6,320 00
														31,560 00
														956,600 92

Finnan haddies, 15,884 cases at $2.40
Haddock, shipped fresh, 400,000 lbs. at 2c.
Finnan haddies, canned, 1,264 cases at $5
Lobsters, shipped alive, 789 tons at $40

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Weirs.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.		
King's County.			$			$			$		$		
Bout Island								2,200	1,100	1	400		
Long Island								2,750	1,375	2	750		
Starr's Flats								3,000	1,500	3	800		
Kingsport					1	30	2	180	90				
Medford	2	40	1,375	5	2	50	4	702	351				
Blomidon	2	30	575	5	2	85	4	680	340	3	300		
Baxter's Harbour					19	400	38	2,000	1,000	1	200		
Hall's Harbour	2	42	600	4	25	500	50	5,000	2,500	6	1,400	9,000	30
Hunting Point and Chipman's Brook					3	80	6	1,500	750	2	600	3,500	5
Black Rock					8	160	16	1,200	600	3	600	1,000	20
Harbourville	1		500	3	12	300	24	1,500	750	4	800	2,000	
Ogilvie		28			7	200	14	1,000	500	1	250	1,000	
Morden					7	200	14	350	175	2	300	350	
Scott's Bay					1	25	2	4,000	2,000	3	1,200		
Aylesford												600	
Avonport					12	200	12	4,440	1,420	1	200		
Gaspereaux and Kentville												1,000	
Totals	7	140	3,050	17	99	2,230	186	30,502	14,451	32	7,800	18,450	55

ıe Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.											Fish Products.		Value.
Herring, barrels.	Herring, smoked, lbs.	Alewives, barrels.	Cod, cwt.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Smelt, lbs.	Fish used as bait, barrels.	Fish used as manure, barrels.	
													$ cts.
....	.....	10	.. .	.....	.....	.....	. ..	175	.... .	.....	... .	50	1,820 00
...	.... ..	.....	.....	.....	... ..	.....	....	65	.....	.....	.. .	.....	650 00
. ..	.. ....	.....	.....	.....	. ...	... ..	....	215	. ...	.....	.. .	.....	2,150 00
...	... ...	.....	.. ...	....	.....	..	.....	...	. . .	.....	75	.....	37 50
44	.....	.....	45	15	19	30	800	20	.....	.....	...	40	907 50
165	500	.....	30	13	. ...	12	.....	13	....	....	65	70	1,166 00
100	.....	....	405	198	.....	95	.....	..	.....	....	380	150	3,464 00
700	40,000	.. ..	500	100	....	400	..	32	.....	.....	250	750	10,940 00
200	.....	.....	105	55	....	.....	... .	20	.. ..	.....	30	100	2,572 50
500	30,000	... .	200	10	.....	....	.	..	.....	.....	100	60	4,340 00
1,000	120,000	.....	170	20	.....	15	.....	.....	. ..	....	120	500	8,487 50
500	... ...	.....	70	15	.....	30	.....	. ..	.....	.....	100	200	3,065 00
70	.....	.....	35	..	.....	15	.....	.....	....	.....	....	25	607 50
....	.....	.. ..	25	35	....	10	.....	180	.....	.....	10	100	2,107 50
..	.....	....	....	....	..	.....	....	.....	800	.....	.....	...	200 00
...	.....	600	.....	.....	.....	...	.....	5	.....	.....	.....	.... .	2,750 00
...	... .	600	.....	....	.....	.....	.. ...	...	1,000	5,000	.....	.....	3,250 00
3,279	190,500	1,210	1,585	461	19	607	800	725	1,800	5,000	1,130	2,045	48,515 00
Lobsters shipped alive, 19 tons at $40													760 00
													49,275 00

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							
	Vessels.				Boats.			Nets.		Weirs and Traps.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh in ice, lbs.	Salmon, smoked, lbs.	Mackerel, barrels.	Herring, barrels.
Lunenburg Co.			$			$			$		$				
Chester	4	123	2000	30	130	2500	125	20200	3500	38	15200	9500	600	950	400
Mahone Bay and Martin's River	17	1218	59500	213	159	2700	74	17500	2800	11	4500	2300	225	300	405
Fox Point	1	39	1500	9	85	1850	120	63500	6000	.....	.....	550	...	600	600
Mill Cove	...	.....	.....	....	70	1500	73	52000	5200	.....	....	540	....	450	530
Lodge	...	.. ..	.....	....	21	575	30	25000	2100	.....	.....	280	...	180	200
North-west Cove	...	.....	.....	....	54	1500	60	38000	4000	.....	.....	640	....	550	600
Aspotogan	1	14	250	3	30	750	30	19000	1400	.....	.....	400	...	450	435
Sandy Beaches	...	.....	.....	....	40	900	48	35000	3000	.....	.. ..	275	. ..	200	375
Blandford	1	24	800	10	88	2200	90	80000	5500	7	2800	600	....	550	1020
Little Tancook	...	.....	...	....	43	1250	38	46500	4050	4	1600	125	...	175	340
Big Tancook	1	41	600	12	163	5600	185	135000	11500	9	3600	425	....	840	2800
Deep Cove	...	.....	.....	...	30	540	35	21600	2350	8	3500	1140	100	145	140
Lunenburg to Cross Island	72	5760	360000	1008	168	6800	186	27000	10668			260	100	1571	4261
East side La Have to New Dublin	54	3780	270000	728	450	9560	140	35000	17500	26	9170	350	108	600	4055
Petite Rivière to County Line	7	490	35000	98	250	5460	164	23500	11750			1308	..	290	5000
Totals	158	11489	729650	2111	1781	43685	1398	638800	91318	103	40370	18693	1133	7851	21161

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.														Fish Products.			Value.
Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Hake Sounds, lbs.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
145	1200	. .	200	100	40	1050	....	600	75	2000	18	76800	75	500	150	125	36,084 50
35	19950	102	59	350	.....	13500	....	225	172	900	10	.....	250	7474	905	50	104,504 60
15	1100	....	300	40	25	400	....	450	5	600	4	. .	....	950	140	75	17,997 50
5	275	....	100	....	50	.....	....	80	8	250	3	.....	....	150	25	40	10,703 00
4	450	..	45	....	40	200	..	....	5	..	....	.....	....	250	42	15	5,962 50
8	300	....	100	...	20	.....	...	...	4	....	5	...	...	220	30	50	12,478 00
4	220	....	70	...	.....	140	....	50	...	....	3	31200	....	200	20	10	14,067 50
6	200	....	75	....	.....	200	....	....	....	....	1	.....	....	160	20	22	5,809 50
12	900	6	200	100	130	600	....	....	50	....	6	.....	....	1050	80	90	18,754 00
6	360	..	50	....	135	150	....	....	10	....	....	.....	....	175	55	60	6,457 00
15	600	....	100	....	250	425	....	...	15	....	4	28800	....	445	165	180	32,912 50
22	65	...	40	....	.. ..	.....	....	320	42	750	17	...	..	140	13	54	3,916 50
10	131126	185	1380	2838	17453	216000	....	....	30	....	50	76000	....	27200	250	750	751,182 00
130	81670	162	1663	278	11427	162000	10	...	50	....	50	14000	....	5110	225	570	463,674 10
95	13520	30	256	140	285	21000	....	....	25	....	25	.....	....	1860	180	825	94,271 10
512	251936	485	4638	3846	29855	415665	10	1725	491	4500	196	226800	325	45874	2300	2916	1,578,774 30
																	Scallops, 350 doz. at 50c.... .... 175 00
																	Clams, preserved, 650 cans at 12c 78 00
																	1,579,027 30

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				
	Vessels.				Boats.			Nets.		Weirs and Traps.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.
Shelburne County.			$			$			$		$	
Barrington	5	77	2250	31	55	1300	60	13000	1200			500
Wood's Harbour	3	64	2700	22	125	2200	119	20000	1800	1	2000	
Shag Harbour	6	106	3150	44	40	1000	45	15000	1250			
Bear Point	1	13	300	6	55	1000	35	10000	1000			
Cape Island	12	270	6700	93	375	7000	450	37500	5500	7	12000	
Port la Tour and Baccaro	1	88	3000	16	230	3000	120	50000	6000			
Upper Port la Tour	1	10	400	5	40	400	40	16000	650			
Cape Negro and Blanche					70	775	70	12000	850			
Cape Negro Island					55	1100	57	16000	1000	1	1200	
Port Clyde					4	40	4	600	30			4000
North-east Harbour	2	60	1500	17	9	900	24	6400	1065	1	325	2100
Black Point and Red Head					45	2780	75	16000	2600			
Roseway and McNutt's Island					47	3500	80	15900	2500			
Gunning Cove and Birchton					39	1600	65	8300	1385			375
Shelburne and Sand Point	5	318	11500	70	47	1300	74	18900	3150			1960
Jordan Bay	3	201	8000	45	24	1140	35	7500	1250			
Jordan Ferry					25	875	32	5000	830			5000
Lockeport	23	1210	59500	250	70	5500	140	22500	4500			650
Totals	62	2417	89000	599	1355	35410	1001	290600	36560	10	15525	14585

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.												Fish Products.		Value.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Trout, lbs.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	$ cts.
40	350	700	2000	175	....	550	2000	500	..	50	.....	1500	2000	19,185 00
50	800	..	725	75	....	100	1500	.....	....	..	76416	375	4000	21,135 74
25	850	25	1000	125	....	400	5500	175	....	15	26592	350	600	15,442 88
10	140	....	175	75	..	100	1500	.....	...	....	42000	100	500	8,452 50
25	5000	....	7000	300	....	3000	71000	.....	...	...	50880	4800	5400	84,593 20
28	1500	....	3300	2000	....	1000	3500	.....	...	...	.....	5525	1200	34,652 00
10	360	....	475	325	....	320	2000	.....	....	30	.....	650	400	6,952 50
30	900	...	500	125	...	250	1800	.....	...	...	.....	550	400	8,570 00
40	2000	325	2800	325	....	860	3600	.....	...	...	.....	2830	750	29,474 50
.....	.....	320	25	..	....	.....	.....	500	....	....	2400	....	.....	2,738 50
60	475	18	828	100	....	190	.....	...	....	8	.....	370	...	8,397 50
....	2750	25	1176	150	...	850	.....	.....	..	...	.....	800	.....	21,524 50
...	2230	....	955	441	....	797	.....	.. ..	....	10	.. ..	1120	.....	18,948 00
....	1905	40	758	210	...	418	.. ...	... ...	...	...	... ...	425	....	14,546 50
....	1648	65	5000	123	....	162	4000	7000	....	....	34560	1337	660	38,339 70
11	1156	....	4638	54	....	100	.....	...	3000	....	15600	1080	.....	29,355 00
4	943	40	45	....	....	110	.....	2500	....	...	.....	80	.....	6,679 00
250	5000	40	20866	860	1517	2166	15000	3000	....	.. .	6240	4500	200	139,492 60
583	28007	1598	52306	5463	1517	11373	111400	13675	3000	113	254688	26392	16110	508,479 62

Mackerel, shipped fresh, 1,088 barrels at $14.....	15,232 00
Lobsters do alive, 2,309 tons at $40..	92,360 00
	616,071 62

Marine and Fisheries.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Weirs and Traps.		Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.		
Queen's County.			$			$			$		$		
Liverpool	2	110	3900	21	23	550	42	2930	1023	....	....	1980	.....
Milton	....	....	....	....	7	70	10	80	36	....	....	3080	.....
Port Hebert	....	....	....	....	6	102	11	180	63	....	....	.....	.....
Port Joli	....	....	.....	....	25	870	34	672	219	....	....	.....	.....
Port Mouton	1	39	2400	7	90	1800	95	4178	1480	....	....	.....	.....
Hunt's Point, White Point and Somerville	....	....	.....	....	26	506	46	2600	763	....	....	.....	.....
Western Head	....	....	.....	....	35	650	43	3095	866	....	....	.....	.....
Moose Harbour and Black Point	....	....	.....	....	16	231	25	1260	450	....	....	.....	.....
Brooklyn	3	75	4600	20	17	300	23	1060	350	....	....	200	.....
Eagle Head and Beach Meadows	....	....	.....	....	36	560	48	1568	572	....	....	200	.....
East and West Berlin	....	....	.....	....	30	593	46	1927	635	1	800	120	.....
Port Medway	2	168	6300	24	60	1270	87	4280	1453	1	1000	11417	500
Gull Island	....	....	.....	....	7	120	9	350	104	....	....	.....	.....
Mill Village	....	....	.....	....	60	480	60	1674	600	....	....	3725	450
Greenfield	....	....	.....	....	6	60	20	100	40	....	....	2200	.....
Totals	8	392	17200	72	444	8162	599	25954	8654	2	1800	22922	950

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.															Fish Products.			Value.
Mackerel, barrels.	Herring, barrels.	Alewives, barrels.	Cod, cwt.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Clams, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
54	560	9	1302	32	108	83	600	....	500	....	.....	....	....	.....	838	80	....	10,767 20
.....	..	....	....	....	....	....	....	....	....	....	..	....	....	.....	.	....	....	616 00
.....	35	....	96	16	....	13	75	....	....	....	.....	1	...	4368	27	20	45	1,355 32
.....	274	16	567	17	....	45	....	...	....	....	3500	25	....	...	56	60	300	4,692 40
...	3246	....	1117	12	....	68	925	....	....	....	.....	2	20	56640	380	180	550	28,606 60
12	577	....	362	22	...	36	....	....	....	.. .	.....	....	13	26400	100	75	260	8,580 00
73	388	....	625	50	.. .	59	680	....	....	2	.....	....	....	...	510	100	....	6,267 00
5	208	....	235	15	...	33	510	....	....	2	.....	1	....	11472	60	50	120	4,008 08
...	125	6	605	13	341	205	3850	...	...	....	.. .	....	....	.....	800	40	....	5,856 50
131	500	6	306	49	8	31	....	..	...	....	.....	....	....	60480	180	90	600	14,691 70
9	400	5	150	10	....	24	105	....	....	2	.....	....	....	32928	259	90	300	7,688 52
10	1088	97	1614	121	5	110	....	...	800	2	2500	10	....	10800	900	180	100	18,206 90
.....	160	..	72	....	...	4	....	....	....	....	....	....	....	.....	....	10	....	1,063 00
.....	....	600	....	....	....	....	....	30	1000	....	5500	16	...	.....	....	....	....	4,370 00
...	....	610	....	....	....	....	....	....	3000	....	.....	....	....	....	....	..	....	3,485 00
294	7561	1349	7051	357	462	711	6745	30	5300	8	11500	55	33	203088	4110	975	2275	120,254 22
Lobsters, shipped alive, 113 tons at $40.....																		4,520 00
																		124,774 22

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Weirs and Traps.		Salmon, fresh. in ice, lbs.	Mackerel, barrels.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.		
Yarmouth County.			$			$			$		$		
Sanford	2	33	1100	10	36	360	72	5760	2700	2	3000	5000	304
Port Maitland	10	70	2600	50	15	160	30	2000	1200	2	1500	5000	900
East Pubnico	4	290	1360	70	6	75	12	300	200	1	50		50
West Pubnico	12	795	29210	228	20	240	40	1966	800	3	1800		800
Argyle	2	23	800	8	40	480	50	4000	1800				264
Yarmouth	13	1578	47600	204	51	1700	100	5000	2400	2	3200	4000	905
Tusket Wedge	5	356	13700	85	25	400	35	3000	1600	6	150		490
Tusket and Islands					100	1200	120	12000	5600	1	75	12000	
Sluice Point	1	10	300	5	20	300	32	1600	800	3	180		120
Eel Lake and Brook					35	420	43	2000	1200	1	60		
East and West Branches					80	800	120	2200	1400				
Salmon River					30	240	40	2500	1000			800	
Arcadia and Little River	1	25	800	5	18	350	36	2240	860	1	60		160
Totals	50	3180	97470	665	476	6715	730	44566	21560	22	10075	26800	3993

the Fisheries, Quantity and Value of Fishing Material, &c.—**Nova Scotia**—*Con.*

Kinds of Fish.														Fish Products.			Value.
Herring, barrels.	Alewives, barrels.	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Lobsters, cans.	Fish Oil, gallons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
2750	20	1100	....	....	..	225	10850	....	....	....	.....	....	.....	200	50	....	23,838 50
1500	....	2500	..	500	....	500	10000	10	...	....	. ..	....	.....	2000	200	1600	37,650 00
120	....	3232	4	410	....	495	1300	....	....	....	.....	....	.... ..	625	225	. ..	19,279 00
300	....	8400	13	1800	...	300	12000	....	....	20	.. ..	....	.....	2500	500	....	59,460 00
410	200	723	...	....	....	26	1000	....	....	....	.....	20	62400	500	200	....	19,121 50
7350	....	14557	10	1506	1180	4307	179600	....	....	300	...	32	115200	4050	800	...	172,912 00
750	....	5525	8	600	....	675	10000	....	....	10	....	5	.....	5600	500	....	42,920 00
....	1400	.....	...	....	....	....	.....	30	600	....	60000	65	153600	... .	....	...	34,214 00
164	80	95	....	....	....	93	300	....	....	...	.....	20	....	.....	....	....	3,761 00
.... .	125	25	....	....	500	....	...	....	500	....	3000	150	.....	....	....	....	3,875 00
.....	700	.....	....	....	....	...	....	20	3000	....	.....	20	.....	.....	...	...	3,850 00
.. ....	400	.....	....	....	....	. ..	.....	....	700	....	2000	30	.. ..	.....	....	....	2,430 00
2400	50	200	....	20	....	....	....	....	....	....	2000	125	....	.. .	....	..	15,575 00
15564	2975	36357	35	4836	1680	6621	225050	60	4800	330	67000	467	331200	15475	2475	1600	438,886 00

Lobsters, shipped alive, 1,486 tons at $40	59,440 00
Finnan haddies, 200 cases at $2.40	480 00
Alewives, smoked, 50 M. at $8	400 00
Frost fish, 200 barrels at $10	2,000 00
Whitefish, 1,000 lbs. at 10c	100 00
	501,306 00

Marine and Fisheries.

RECAPITULATION

Of the Yield and Value of the Fisheries for District No. 3, **Nova Scotia**, 1892.

Kinds of Fish.	Quantities.	Rate.	Value.
		$ cts.	$ cts.
Salmon, fresh ... Lbs.	112,910	0 20	22,582 00
do smoked ... "	2,083	0 20	416 60
Mackerel, pickled ... Brls.	21,724	14 00	304,136 00
do fresh ... "	1,088	14 00	15,232 00
Herring, pickled ... "	85,972	4 50	386,874 00
do smoked ... Lbs.	260,500	0 02	5,210 00
Alewives, pickled ... Brls.	7,759	4 50	34,915 50
do smoked ... No.	50,000	80c. per 100	400 00
Cod ... Cwt.	405,013	4 50	1,822,558 50
Cod tongues and sounds ... Brls.	655	10 00	6,550 00
Hake ... Cwt.	46,177	3 00	138,531 00
do sounds ... Lbs.	24,380	0 50	12,190 00
Pollack ... Cwt.	54,410	3 00	163,230 00
Haddock, dried ... "	105,421	3 50	368,973 50
do fresh ... Lbs.	40,000	0 02	8,000 00
do smoked ... Cases.	16,084	2 40	38,601 60
do canned ... "	1,264	5 00	6,320 00
Halibut ... Lbs.	1,373,560	0 10	137,356 00
Shad ... Brls.	942	10 00	9,420 00
Bass ... Lbs.	3,000	0 06	180 00
Trout ... "	35,800	0 10	3,580 00
Squid ... Brls.	974	4 00	3,896 00
Smelt ... Lbs.	92,500	0 05	4,625 00
Eels ... Brls.	848	10 00	8,480 00
Clams ... "	33	7 00	231 00
do preserved ... Cans.	650	0 12	78 00
Lobsters, preserved ... "	1,035,264	0 14	144,936 96
do fresh and alive ... Tons.	4,740	40 00	189,600 00
Frost fish ... Brls.	200	10 00	2,000 00
Whitefish ... Lbs.	1,000	0 10	100 00
Scallops ... Doz.	350	0 50	175 00
Fish oil ... Galls.	153,280	0 40	61,312 00
do bait ... Brls.	41,240	0 50	20,620 00
do manure ... Brls.	18,926	0 50	9,463 00
do guano ... Tons.	228	25 00	5,700 00
Total value ...			3,936,473 66

Return showing the Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of District No. 3, **Nova Scotia**, 1892.

Articles.	Value.	Total.
	$	$
362 vessels of 19,912 tons ...	997,730	
4,656 boats ...	107,862	
1,087,726 fathoms of nets ...	200,818	
30 seines ...	1,800	
225 weirs and traps ...	88,120	
		1,396,330
35 canning establishments, including boats, smacks, &c ...	...	67,410
115,300 lobster traps ...	...	92,240
Total ...	...	1,555,980

STATEMENT showing the distribution of Lobsters, Canneries and Traps in the above District.

County.	No. of Canneries.	No. of Traps.	Value.
			$
Annapolis		5,200	
Digby	3	15,500	
King's		1,200	
Lunenburg	7	15,400	
Queen's	11	14,000	
Shelburne	9	33,000	
Yarmouth	5	31,000	
	35	115,300	159,650

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men employed, &c., in the whole Province of **Nova Scotia**, for the Year 1892.

COUNTIES.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				KINDS OF FISH.								
	Vessels.				Boats.			Nets.		Weirs.		Salmon, barrels.	Salmon, fresh, in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, barrels.	Mackerel, in cans.	Herring, barrels.	Herring, smoked, lbs.	Alewives, barrels.	Cod, cwt.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.										
			$			$			$		$										
Cape Breton	9	152	2880	46	782	21963	1485	70680	31443	....	....	20	16610	...	....	1717	..	3365	1000	609	15497
Inverness	10	346	7500	81	813	29961	2010	65674	28450	48	400	6	72272	...	1880	2824	....	7390	...	1673	36279
Richmond	62	1934	23460	448	1143	13106	1964	169660	43937	..	.....	....	4063	....	....	6716	...	12581	...	1637	24634
Victoria	2	67	700	6	1032	33603	1827	61457	26422	....	.....	189	.....	....	..	1193	....	2786	...	347	22985
Antigonish	1	12	200	3	190	3140	314	62200	9470	....	.....	....	44120	....	....	577	....	1974	...	294	1108
Colchester	....	..	.....	....	81	1705	191	13746	2477	....	..	....	14750	..	....	....	....	89	16800	60	184
Cumberland	....	.....	.....	....	161	4509	221	4684	2153	....	.....	....	6180	....	....	53	...	675	...	755	322
Guysborough	16	489	10750	79	1764	49707	2218	234972	53387	81	12790	99	48570	375	600	9825	....	30170	...	1571	19814
Halifax	85	2209	57400	570	2539	44379	3055	365845	41947	...	....	6	21716	850	110	3843	2000	9599	....	519	32793
Hants	....	.....	.....	....	116	1542	128	10145	2808	6	220	....	13235	....	..	.....	....	47	...	348	323
Pictou	....	.....	.....	....	241	3951	373	6209	3165	....	....	....	46570	....	..	24	..	881	.....	20	102
Annapolis	13	427	1870	108	206	4760	346	16804	8475	13	2150	....	10950	....	....	197	..	5770	50000	115	6460
Digby	64	1867	59490	616	295	6900	603	40500	19800	43	10400	....	510	....	....	8751	....	4630	20000	..	49318
King's	7	140	3050	17	99	2230	186	30502	14451	32	7800	....	18450	..	...	55	....	3279	190500	1210	1585
Lunenburg	158	11489	729650	2111	1781	43685	1398	638800	91318	103	40370	..	18693	1133	....	7851	....	21161	.....	512	251936
Queen's	8	392	17200	72	444	8162	599	25954	8654	2	1800	...	22922	950	....	294	...	7561	.....	1349	7051
Shelburne	62	2417	89000	599	1355	35410	1001	290600	36560	10	15525	..	14585	....	....	583	....	28007	.. ...	1598	52306
Yarmouth	50	3180	97470	665	476	6715	730	44566	21560	22	10075	...	26800	....	....	3993	....	15564	.....	2975	36357
Totals	547	25121	1100620	5421	13518	315428	18649	2152998	446477	360	91530	320	400996	3308	2590	48496	2000	155529	278300	15592	559054

RECAPITULATION by Counties, showing the Number, Tonnage and Value of Vessels, &c.—**Nova Scotia**—*Concluded.*

COUNTIES.	KINDS OF FISH.														FISH PRODUCTS.				VALUE.
	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Squid, barrels.	Smelt, lbs.	Eels, barrels.	Oysters, barrels.	Lobsters, cans.	Hake Sounds, lbs.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
Cape Breton		195		2410	15400	2		8395		16900	287	55	278214		9183	55	2894		178,958 16
Inverness			1457	1947	2480		100	38280	2119	37600	583	1047	238605	1600	13498		4210	50	338,945 80
Richmond	20	286		5957	7200					32607	125		438332		8195		754		360,953 93
Victoria		70		497				3800	1654	4200	67	1529	61104		11771		2168		168,184 46
Antigonish			3048	580			3500	5120		28000	126	125	214050	6960	1580		1628		83,546 00
Colchester				28	2350	1166	900	2550		8568		200	16656		114			14	20,835 00
Cumberland		151		195	4555	235		2420		30150	19	627	392062				1614	380	75,224 00
Guysborough		310		6207	12615		500	41790	4739	41000	235		995808		11750		7361	455	587,876 00
Halifax	391	2589	4568	2852	142224			9820	17	16700	117		818936	2906	15826		2010		433,358 00
Hants		4		202	150	410	8070	3625											11,560 00
Pictou			30				300	850		30000	220	193	883641				750	1055	144,809 00
Annapolis	45	2448	2623	4980	34900	30	3000	8500		1500	17				1999	228	4001	600	109,418 60
Digby	90	36207	36030	51274	579000	87			145				19488	24055	59430		14249	9490	956,600 92
King's		461	19	607	800	725		1800		5000								2045	49,275 00
Lunenburg	485	4638	3846	29855	415665	10		1725	491	4500	196		226800	325	45874		2300	2916	1,579,027 30
Queen's		357	462	711	6745	30		5300	8	11500	55		203088		4110		975	2275	124,774 22
Shelburne		5463	1517	11373	111400			13675		3000	113		254688		26392		16110		616,071 62
Yarmouth	35	4836	1680	6621	225050	60		4800	330	67000	467		331200		15475		2475	1600	501,306 00
Totals	1066	59472	55550	126296	1560534	2755	16370	152450	9503	338425	2627	3776	5372672	35846	225197	283	64629	20880	6,340,724 01

RECAPITULATION

Of the Yield and Value of the Fisheries of the whole Province of **Nova Scotia**, for the year 1892.

Kinds of Fish.		Prices.	Quantity.	Value.	Total Value.
		$ cts.		$ cts.	$ cts.
Salmon, pickled	Brls.	16 00	320	5,120 00	
do fresh	Lbs.	0 20	400,996	80,199 00	
do smoked	"	0 20	3,308	661 60	
do in cans	"	0 15	2,590	338 00	
					86,368 60
Mackerel	Brls.	14 00	49,601		694,416 00
Herring, pickled	"	4 50	155,529	699,882 00	
do smoked	Lbs.		278,300	5,902 00	
					705,784 00
Alewives, salted	Brls.	4 50	15,592	70,165 50	
do smoked, per 100	No.	0 80	50,000	400 00	
					70,565 50
Cod, dried	Cwt.	4 50	559,054	2,515,746 00	
do tongues and sounds	Brls.	10 00	1,066	10,660 00	
					2,526,406 00
Haddock, dried	Cwt.	3 50	126,296	442,036 00	
do fresh	Lbs.	0 02	40,000	8,000 00	
do smoked	Cases.	2 40	16,084	38,601 60	
do preserved	"	5 00	1,264	6,320 00	
					494,957 60
Hake, dried	Cwt.	3 00	55,550	166,650 00	
do sounds	Lbs.	0 50	35,846	17,923 00	
					184,573 00
Pollack, dried	Cwt.	3 00	58,015		174,045 00
Halibut	Lbs.	0 10	1,560,534		156,055 00
Shad	Brls.	10 00	2,755		27,550 00
Bass	Lbs.	0 06	16,370		982 00
Trout	"	0 10	152,450		15,245 50
Smelt	"	0 05	338,225		16,910 35
Squid	Brls.	4 00	9,503		38,012 00
Eels	"	10 00	2,627		26,270 00
Oysters	"	3 00	3,776		11,328 00
Clams					309 00
Lobsters	Cans.	14	5,372,672	752,173 66	
do fresh and alive	Tons.		4,880	193,100 00	
					945,273 66
Frost fish	Brls.	10 00	200		2,000 00
Whitefish	Lbs.	0 10	1,000		100 00
Scallop	Doz.	0 50	350		175 00
Fish oil	Galls.	0 40	225,197		90,078 80
do bait	Brls.	1 50	64,629		55,803 00
do manure	"	0 50	20,880		10,441 00
do guano	Tons.	25 00	283		7,075 00
Total for 1892					6,340,724 01
do 1891					7,011,300 53
Decrease					670,576 52

RECAPITULATION

SHOWING the Number and Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of **Nova Scotia,** with an Approximate Value of other Fishing Material for the year 1892.

Articles.	Value.	Total.
	$	$
547 vessels, 25,121 tons	1,100,620	
13,518 boats	315,428	
2,152,998 fathoms of nets	446,477	
Seines	18,064	
360 weirs and traps	104,630	
		1,985,219
182 lobster canneries	233,050	
334,610 lobster traps	222,899	
		455,949
Hand-lines, trawls, &c		54,500
Steamers, smacks and punts		12,500
Fishing piers, ice-houses, &c.		87,740
Total		2,595,908

APPENDIX B.

NEW BRUNSWICK.

District No. 1, comprising the county of Charlotte.—**Inspector, J. H. Pratt, St. Andrew's.**

District No. 2, comprising the counties of Restigouche, Gloucester, Northumberland, Kent and Westmoreland.—**Inspector, R. A. Chapman, Moncton.**

District No. 3, comprising the counties of Albert, St. John, King's, Queen's, Sunbury, York, Carleton and Victoria.—**Inspector, D. Morrow, Oromocto.**

DISTRICT No. 1.

ANNUAL REPORT ON THE FISHERIES OF DISTRICT No. 1, NEW BRUNSWICK, FOR 1892, BY INSPECTOR J. H. PRATT.

St. Andrew's, N.B., 31st December, 1892.

Hon. Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to submit herewith my fourth annual report on the fisheries of District No. 1, New Brunswick, comprising the county of Charlotte and the outlying islands. I also inclose a synopsis of the annual reports of the several fishery officers of the district.

It is to be regretted that these returns show quite a decrease when compared with last season's catch. This falling off is mainly due to the small size of the schools of sardine herring that struck the shores, and also to the extremely low figure offered in the markets for smoked herring. The failure of the usual winter school of large herring to put in their appearance also largely affects the value of the year's catch. The dull herring market at the beginning of the season and throughout the year compelled a number of herring fishermen to leave it and embark in some other occupation which would have more certainty of giving a financial return for the time and labour involved.

The market for canned sardines throughout the season was in a glutted condition, sales of stock were very slow, and our weir fishermen, of course, felt the effects of this stagnation very severely.

The value of the catch for 1891 is $1,279,977.19, while that for the past season is $863,465.90, showing a decrease of $416,511.29.

MACKEREL.

This much sought after fish did not strike inshore during the season, although they schooled very plentifully off in the Bay of Fundy. Good hauls were made by the large fleet of American and Canadian seining schooners that pursued them to all parts of the bay. At one time in September the fleet of American schooners numbered forty-five sail, and when augmented by the Canadian fleet it kept this steamer busy in the vain

ndeavour to be in all portions of the Bay of Fundy at the one time. However, by the kindness of several patriotic correspondents, I was kept promptly and truthfully informed of the movements of the different "wings" of this large fleet, and in consequence it is a pleasure to report that there were none of the usual rumours in circulation of the American fleet poaching in Canadian waters.

With such a large fleet pursuing them very few fish found their way inshore, and the annual reports of the several fishery officers will show a very small mackerel catch when compared with last season. Early in October, on the mackerel disappearing in a westerly direction, the fleet left these waters in pursuit of them.

HERRING.

The usual winter school of large herring, for reasons as yet unexplained, failed to strike into the Bay of Fundy last winter, and much to their disappointment, our fishermen were deprived of a fishery which is generally a lucrative one.

This winter herring fishing formerly afforded employment to many hundred men, but during the past three or four years very few vessels and men have found employment at it; the schools not seeking the Bay of Fundy as they usually have done in years gone by.

Countless theories have been advanced in explanation of the causes that affect the appearance and disappearance of this winter school of herring, but up to the present their failure to appear in this bay during the winter season remains as much a mystery as ever. Instead of remaining idle, however, the fishermen embarked in the lobster and line fisheries, which brought them good prices last winter and spring.

The run of small herring for sardine purposes has been considerably less than in previous years. On the Mascarene shore, in St. Andrew's Bay, they were unusually plentiful and some good fishing was given our fishermen there. On some nights illegal seining and "torching" was carried on, and the local officers met with considerable opposition in their endeavours to put a stop to it. The "Curlew" being engaged night and day protecting the three-mile limit in the Bay of Fundy from the large fleet of mackerel catchers there, prevented her from giving the necessary protection to the inland waters, but after delivering the "Hattie Maud" to the authorities in St. John, this illegal fishing was soon put a stop to. Several boats were seized, also the seines in them, and the owners thereof fined.

LOBSTERS.

The catch of lobsters for the year will be found to be above the catch for last year. Each year this fishery is increasing in importance and value, and even the fishermen are awaking to a sense of the necessity of more stringent protection of the fishing grounds of the lobster. In spite of warnings given repeatedly to our fishermen there are a number of them who cannot await the coming of the opening season, but will insist on commencing beforehand, therefore, during the past fortnight the crew of this vessel have been quite busily employed rowing among islands and ledges ferreting out and destroying lobster traps. Nearly four hundred were destroyed, and the lobsters liberated.

Four persons were fined $10 each, three of whom paid, and a warrant committing the fourth to gaol for twenty days has been issued to a constable and will be served at once.

POLLACK.

This fish, although in the aggregate showing a decrease, will show an increase in the returns from the Campobello district. Not for many years were these fish so numerous in the Quoddy River fishing grounds, and splendid catches were made by everybody who fished on those grounds.

COD, HAKE AND HADDOCK.

The catch of these fish shows a slight decrease when compared with last season, due mainly to a less vigorous prosecution of the fishery, and also to the fact of the fish being more scattered than in former years.

The decrease can in some degree be attributed to the fact of the several officers being more careful in the collection of their returns than in past years.

TROUT AND SALMON.

Large numbers of sportsmen frequented the countless lakes and streams in this district during the past season seeking the above named fish, and with few exceptions returned amply pleased with the outlay of time and money by their good catches.

A splendid run of salmon ascended the St. Croix, and although at St. Stephen the poachers made several determined attempts at netting some, they all ascended to the spawning grounds. Great credit is due to the American fish warden French, at St. Stephen, for the successful manner in which he, acting in concert with the Canadian officer, manages to keep the poachers from setting their nets. But for the efforts of those two men very few salmon would arrive above tidal waters.

Numbers of salmon ascended the St. George River for the first time in its history, and they passed through all the fish-ways beyond the second falls. The sportsmen in the vicinity of the river were highly pleased at these fish successfully passing through the many fish-ways at St. George, and are hopeful of an increased run next season.

SEIZURES.

During the past year it was found necessary to place under arrest one United States fishing vessel, the mackerel seining schooner "Hattie Maud." Her offence was shipping men at Shelburne, N.S., in violation of the provisions of the treaty of 1818. This vessel since committing the offence had shunned all Canadian ports, and the night she was seized was her first entrance into any of them. Some hours after her entrance this steamer also entered.

At the Magaguadavic River a number of seines have been seized for the illegal seining of herring, and steps are now being taken for their confiscation. The two owners of one seine have been fined $20 each and their seine destroyed. Another offender is now in St. Andrew's jail in default of the payment of a fine of $10. Six other warrants have been issued committing the offenders to jail for terms of twenty and thirty days. During the month of December many of our fishermen embarked in the lobster fishery. Four of them were caught and were fined $10 each, their traps confiscated and destroyed and the lobsters liberated. Three men paid the fine imposed and the fourth has disappeared, owing, no doubt, to the fact of a warrant being issued committing him to jail for twenty days, and is now in the hands of a most determined constable. About four hundred traps in all have been destroyed.

FISH-WAYS.

On the Ste. Croix all the fish-ways were well looked after; reports of salmon being interfered with in passing through the St. George fish-ways have been made, but no authentic information could be procured implicating any person. A new Hockin fish-way has been placed at St. George, but a new dam should be constructed below the gully there to replace the old one recently washed away.

It is expected that a fish-way will be placed at the dam at the mouth of the New River, Lepreaux, during the coming summer by the owner thereof, or, if not, the dam will be opened.

SYNOPSES OF FISHERY OVERSEERS' REPORTS.

Overseer Lord, of West Isles, reports that the season has not been a very prosperous one for the fishermen of his district. Although an increase will be found in the catch of lobsters, haddock and large herring, in all other kinds of fish there has been a falling off. The decrease in the catch of sardine herring he attributes to the presence of numerous schools of silver hake and squid, that pursued and drove the few schools of small herring past the islands into St. Andrew's Bay.

Pollack were very plentiful, but as most of the fishermen in his district stuck to the weir fishing throughout the season, the catch will show a decrease when compared with last season.

An enormous decrease will be shown in the number of boxes of smoked herring put up in this district. Many of our fishermen have arranged to have the fish smoked in

astport ; therefore, by sending them there fresh they have them smoked, and thus evade ıe payment of the heavy duties imposed on smoked herring going across the line.

All kinds of fish brought very good prices except sardine herring, and, from a nancial stand-point, we are in a very good position to meet the winter.

Overseer Frank Todd in his report states that in his district all kinds of fish, with ıe exception of mackerel, were as plentiful as ever. Salmon ascended the river in eater numbers than ever before, especially in the latter part of the season.

Sardine herring were in great abundance until the fall set in, when they disap- eared. On account of no steamer buying herring frequenting his district for the pur- ıase of those fish, few were taken from the weirs.

All the fish-ways in the district were kept open and in good order during the season. ittle, if any, poaching was done for salmon, although in spite of the precautions taken y him he feels certain some were taken by drift nets at St. Stephen on several nights.

He strongly urges the employment of a night watchman to patrol the river on the anadian side in order that some of those lawless characters at St. Stephen and vicinity ıay be brought to justice.

Overseer Barry reports alewives very plentiful in the Magaguadavic River in the ›ring, but thinks not many got through the fish-ways on account of the loss of the dam nd fish-way at the head of the "gully."

Salmon made their appearance the first week in July and succeeded in ascending ıe fish-ways to the Upper Falls, which they were successful in climbing, after some ecessary repairs were made to the fish-way at that place. It was a great surprise to the ıhabitants to have such a run of salmon in the river for the first time. The overseer ıinks this run is owing to the fry planted in the head waters of the river some years go. If fortune favours us henceforth with an annual run of those fish, we will ere ›ng have our river well stocked. I would earnestly suggest, however, that a stock of fry e placed in this river each season, as there can be no doubt whatever that the Iagaguadavic, with its numerous chain of lakes, has no superior in the province as a almon river.

Trout have been very abundant in all the lakes and streams, but were only caught y sportsmen. The fish-ways are all in very good order and have been carefully looked fter. One ladder and dam was washed away last spring and one was added by depart- ıent during the summer. This new one, built on the Hockin principle, seemed to be success. Several other fish-ways are up the river at Upper Falls and Linton stream.

This new fish-way, no doubt, will prove beneficial and fulfil its intended purpose, nd the people here appreciate it very much indeed. Considerable time and expense is ecessary in keeping the fish-ways clear of the large amount of drift debris that comes own river, and they have to be attended to at least twice each week. Few, if any, iolations of the Fisheries Act have occurred and the people seem willing to respect the aw, more particularly since the salmon have appeared.

Overseer Brown, of Campobello, in his report states that there has been an increase n the catch of large herring, pollack, hake, haddock, halibut and lobsters. Pollack vere very plentiful and good prices were paid for them. Lobster fishing was better han last season, although not so many traps were used ; but the men went further off hore than usual and succeeded in doing a good season's business. Weir fishing has ›een a failure, some not even taking a fish. He thinks this decline can be attributed o the numerous schools of squid which appeared last summer, and drove the schools out ›f the weirs. Very few herring were smoked in my district on account of the heavy Jnited States duty. They were sold fresh to th · Americans and smoked on their side ›f the boundary line. As good prices were paid for all kinds of live fish to our fisher- nen, they feel they have made a good season's work. The close seasons have been well ›bserved.

Overseer Campbell, of St. Andrew's, states in his report that this season has not ›een a successful one. A good catch of lobsters was made and prices were slightly ›etter. He thinks that in the first of the lobster season, when the female lobsters are ıot easily detected, except by a fisherman, many female lobsters are taken and killed, vhich is borne out by the catch, showing that there are fewer lobsters bred. A few ;ears since and they would run 35 to the 100 pounds, while now they run about 60 to

the 100 pounds. To improve the catch I would advocate a close season of one or two years in Passamaquoddy Bay, and raise the size limit to $10\frac{1}{2}$ inches. Nine inches is too small and only sell for one cent each, while those of $10\frac{1}{2}$ inches bring 5 to 10 cents each. A lobster fishing season from the 1st March to 15th or 30th July, would be the best for this district and more satisfactory to the fishermen.

Little line fishing has been carried on, and that for local consumption only. No net herring appeared last winter but there are some prospects of them appearing this winter. Smelts appear regularly and often some are taken in the weirs. Some few years since a few enterprising men attempted to make a business of it but their efforts were attended with failure. On account of the great rise and fall of the tides I fear they will meet with little success. The regulations regarding smelts prohibit their use for manure, and some similar regulation regarding young herring should be made.

Fair catches of sardine herring were made in the weirs, but prices have been low. Brit frequented the weirs during the middle and latter part of season, mixing with the herring, and buyers refused to purchase. Owing to unusual causes some illegal fishing has been engaged in at the Mascarene shore. I spent considerable time there but failed to make any seizures. Warden Dick attempted to seize some seines and was roughly handled and the seines retaken. As soon as some of the parties were arrested the work was brought to a close. As an impression seems to be entertained by the fishermen that seizures can only be made while in the act of fishing illegally, it renders matters very difficult for an officer to act. The illegal fishing is only carried on at night. If boats, gear and fish could be seized on suspicion, compelling the owners to prove themselves innocent, an officer's duties could be greatly simplified. Buyers then would not buy and illegal fishing would receive a death-blow. A small steam launch connected with the "Curlew" would also be of use in breaking up illegal work, and allow the "Curlew" more time for the outside work. Land-locked salmon in the Chamcook Lakes was not as good as last season but the salmon, are steadily increasing. Trout fishing has been very good in all the lakes and streams. No person has been engaged in curing any fish in this district and the different plants have remained idle.

Overseer Ash, of Beaver Harbour, reports that all kinds of fish have not been as plentiful as last season, excepting large herring and halibut. Sardine herring brought better prices than last season. There were not so many engaged in the lobster fishing as last season. Mackerel were in numerous schools off shore, but owing to the large number of American seiners pursuing them very few found their way into the weirs. Some illegal fishing for herring was carried on in several parts of the district which is difficult to stop, as an officer cannot be in all parts at one time.

Overseer McLaughlin, of Grand Manan, reports that compared with last year there has been a falling off in the catch of all kinds of fish. Weir herring have been as numerous as ever but their curing does not repay the expenses attached, and many are leaving this business and engaging in other industries. Thirty-three weirs were built last year, only twenty-four this year. Hake has been a fair catch, but cod has been a failure, owing in a great measure to the immense numbers of dog-fish and silver hake frequenting the bay during the last four years. In Europe silver hake (or whiting) is much prized, both fresh and salted, but in this country they have never been so numerous as to attract notice and it now remains for some person to bring them to public notice.

I would strongly advocate that all maritime governments offer a bounty of one cent each for the destruction of dog-fish. If something is not done it will only be a question of time when those fish will have possession of the Bay of Fundy. One cent each, together with what would be paid for their bodies at a fertilizer factory and their livers for oil, would make it pay to catch them.

Excepting at North Head, herring have been in those waters in as large schools as ever. Never was better herring fishing than what was at Three Islands and Long Pond Bay, and around Southern Head the waters were alive with schools of both large and small herring. There was a small demand for them. Americans buy them at such a low figure that what profit there is in them is very small indeed. The number of smoke houses has decreased during the year, some fishermen taking down their buildings

and removing them to the state of Maine. More energy has been put into the line fishing this season, but the fish seem more scattered, not being in schools as formerly.

Mackerel schooled around this island more thickly than ever, but were very wild and avoided nets and weirs, and few were taken. No doubt the large schools outside were broken up and scattered by the numerous seining schooners pursuing them.

The usual close seasons and the laws generally have been well observed and no complaints have been made.

I have the honour to be, sir,
Your obedient servant.

JOHN H. PRATT,
Inspector of Fisheries.

DISTRICT No. 2.

REPORT ON THE FISHERIES OF DISTRICT No. 2, COMPRISING THE COUNTIES OF RESTIGOUCHE, GLOUCESTER, NORTHUMBERLAND, KENT AND WESTMORELAND, FOR THE YEAR 1892, BY INSPECTOR R. A. CHAPMAN.

MONCTON, N.B., 31st December, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit my report for the year 1892 of the fisheries of District No. 2, in the province of New Brunswick, with extracts from the reports of local fishery officers; also tabulated statements giving the product and values by districts and counties, together with an estimate of the capital employed in the prosecution of the fisheries. These returns show a small increase in the aggregate over last year's catch, and a very marked advance on that of the year immediately preceding. The figures for the past three years are:

In 1890	$ 1,445,194.82
1891	2,075,392.47
1892	2,144,107.40

There has been a gain on almost every kind of fish except smelt and lobsters.

SHAD

Again show a very considerable increase, and if the parent fish were protected during their spawning time, this gain could and would be multiplied many times.

SALMON.

There was quite a falling off in the catch on the Miramichi River and its tributaries during the past season owing to these fish striking in late last spring, and unusual freshets near the close of the open season, but this deficiency is more than made up by a larger catch on the Bay des Chaleurs, Restigouche River, &c. Large quantities of salmon and grilse, especially the latter, are reported in all the streams frequented by them last fall.

HERRING

Last spring were taken in increased quantities except in one or two places in Gloucester county. Fall fish were not very plentiful on the Miscou and Caraquet banks.

SMELTS.

In my preliminary report I estimated the falling off in the catch of smelts from previous year at half a million pounds. It actually amounts, when returns are all in, to about three-quarters of a million, owing almost entirely to the very open winter, consequent want of ice to fish upon, and bad weather for shipping. Good and very profitable fishing is reported this winter since the ice formed, but much later in commencing than usual in most places.

COD.

The catch of this staple fish is hardly up to that of 1891. Good fishing is reported during the fall and spring, but very poor in mid-summer.

HAKE.

A very large increase on last year's take is reported, and many more could have been caught at Richibucto, &c., if a ready market for them was available.

HALIBUT

Though not quite up to the figures for 1891, are away ahead of any previous year.

MACKEREL

Were again abundant on our coasts and more were taken than in 1891: after an absence of some years they seem to have returned to our waters.

TROUT.

A larger catch of trout is again reported owing, I believe, to better protection and perhaps in some cases fuller returns.

LOBSTERS.

Notwithstanding the large number of new factories opened last spring, the whole pack is not quite up to last year's; the falling off is greatest on the southern part of the coast where factories are most abundant; there is great danger of over-fishing.

OYSTERS.

A considerable increase in quantity of oysters raked, is reported; especially from Northumberland County. Buctouche Bay, in Kent County, was fearfully over-fished last winter through the ice, the prohibition now enforced, will help, I believe, to restore the exhausted beds at Buctouche, Cocagne, Richibucto, &c., &c.

SYNOPSES OF FISHERY OVERSEERS' REPORTS.

RESTIGOUCHE COUNTY.

Overseer J. A. Verge says 51,558 lbs. of salmon were caught this year against 39,080 last year, an increase of 12,478 lbs., and three stands of nets not fished. The anglers also did well. The spawning grounds are reported well stocked with fish, which is promising for the future. Trout are fished for with hook and line only. Lobsters are caught but for domestic use, in my district.

Overseer A. McPherson, reports the quantities of fish taken varies in respect of kinds, while as a whole there has been an average catch. The salmon our greatest staple fishing, better by twelve per cent than last year, has nearly approached its former average.

GLOUCESTER COUNTY.

Overseer James Hickson states salmon fishing has been very fair along the lower portion of my district. The catch of mackerel has been considerably larger this year than last. Cod and herring are our staples, and it only needs extra expenditure and exertion to double the catch any time, the cod fishing has been very good this season. The take of lobsters was very good at the first of the season but fell off considerably towards the close. The anglers report fair sport on the Nepisiguit River; there were great quantities of grilse both in the bay and river this year.

Overseer J. D. Theriault reports that fishing of all kinds prosecuted in his district has met with fair results this year.

Overseer Jos. L. Haché reports again a falling off in oysters, cod not quite up to last year, other kinds of fishing fair.

Overseer H. D. Albert reports an increase in lobster fishing. Cod not quite so good as in 1891 considering the number of boats engaged.

Overseer Adolphe Aché, says the mackerel fishing was very much better than last year. Cod fishing during the month of June was very good, after that it failed almost completely. The fish became more abundant as the season advanced, but owing to the roughness of the weather our fishermen could not make large catches. On the whole it was considerably less than last year. I must say, however, that last year's fishing was

very much above the average. The lobster pack was about the same as 1891, the lobsters, however, were very much larger than heretofore. Herring under the average of other years.

Overseer William Walsh reports a very large catch of alewives, a very small catch of smelts, little change in other branches.

Overseer Oliver Robicheau reports fair fishing in his district, alewives exceedingly plentiful. Salmon, mackerel and herring also good. The catch of smelts very poor owing to the mildness of the winter.

NORTHUMBERLAND COUNTY.

Overseer Prudent Robichaud reports a very considerable falling off in salmon in his district and a great decline in the take of smelts from that of 1891, other fishing fair, and up to or beyond the average.

Overseer John G. Williston reports a falling off in the catch of salmon, but that the fall run of these fish has been good in the rivers, and fishermen anticipate good fishing next year. Mackerel were very plentiful and the freezers got all they wanted. Herring, alewives, cod and hake plentiful, but as not much preparations are made to catch and preserve these fish, only a limited quantity are taken ; they are very abundant, and only require capital invested to secure large quantities of these fish. Halibut have been unusually plentiful. Owing to the mild weather last winter, a small take of smelts was made. I have to report an unusually large catch of oysters. The lobster pack was fairly remunerative to all concerned.

Overseer L. H. Abbott reports a falling off in the catch of salmon and smelts, which are the principal fish caught in his district.

Overseer P. Hogan writes: As the salmon did not enter the river until late in June, and the two last weeks of the fishing season the fishermen could not fish their nets on account of heavy rain and high water, a slight falling off has taken place in his district ; but the freshets enabled large numbers of salmon to reach the spawning grounds, and that there has not been so large a run of grilse for many years.

KENT COUNTY.

Overseer Pierre L. Richard reports smelts very scarce early in the season, but better later on, especially during the extension. Cod, mackerel, gaspereau, bass and ling very abundant, but not sufficient preparations made for their catch.

Overseer W. F. Hannah reports fair fishing in all its branches. Ling exceedingly plentiful early in the season ; small bass also everywhere on the coast and in the estuaries and rivers. Smelt and lobster fishing about up to 1891.

WESTMORELAND COUNTY.

Overseer Robert Goodwin reports fishing as a whole has been good, herring, especially, were exceedingly plentiful, as also river fish, such as bass, eels and trout. The sawdust nuisance is almost a thing of the past. The fish-way in Doyle's dam is in good repair.

Overseer Denis T. Cormier reports a very considerable increase in the shad fishing, which is the principal one in his district, but reiterates the statement that this important industry can never assume its former great proportions until the fish are protected during the spawning season by prohibiting their take anywhere in the province before the 20th of June.

I have the honour to be, sir,
Your obedient servant,
R. A. CHAPMAN,
Inspector of Fisheries.

DISTRICT No. 3.

REPORT ON THE FISHERIES OF DISTRICT No. 3, COMPRISING THE COUNTIES OF VICTORIA, CARLETON, YORK, SUNBURY, QUEEN'S, KING'S, ST. JOHN AND ALBERT, FOR THE YEAR 1892, BY INSPECTOR J. H. PRATT.

D.SS. "CURLEW,"
ST. ANDREW'S, N.B., 31st December, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith the annual report of the fisheries of District No. 3, New Brunswick, for the year 1892, with condensed reports of the several fisheries officers. I also inclose statements showing products and values by counties; also an istimate of the capital employed.

A slight decrease will be noticed in the aggregate value of the catch when compared with last season :—

Value for 1891	$215,681 04
do 1892	192,678 50
Decrease	$23,002 54

There has been a falling off in nearly all branches of the fisheries, which I attribute to the fact of there being a less vigorous prosecution of them, not that the fish are becoming any more scarce. Line fishermen seem to have met with poor success by their catches given, and a number of men did not engage in this branch this season

HERRING.

Herring gave about a usual catch, but with the low prices offered in the various markets for this fish, whether barrelled, smoked or fresh, few men made any attempt at their capture.

ALEWIVES.

An average catch of alewives was made and fair prices ruled for them during the season. Considerable feeling is manifested by the St. John river fishermen against the St. John harbour men, on account of the St. John men being allowed to fish on Saturday, while they are debarred by the regulations from doing so. They think, and quite rightly too, that all fishermen on this river should be treated alike.

MACKEREL.

Although in numerous schools in the Bay of Fundy, this delicious fish failed to come within the reach of our shore fishermen and none were taken. The reason is quite plain, when we take into consideration the large fleet of United States fishing schooners pursuing them to all parts of the bay. Even off St. John harbour seiners could be seen at work, although well outside the three-mile limit.

COD, POLLACK AND HAKE.

A large decrease is noticed in the catch of those fish, not owing to any scarcity on the shores, but solely because a large number of men did not care about engaging in a fishery when the compensation did not reach their expectations.

HADDOCK.

The returns for this fish show about the same as last season. Prices were good al the season, and the demand was far in excess of the supply.

SHAD.

The returns show about the same catch as last year. Complaints have been received regarding the sawdust and mill refuse deposited on the flats in the waters of Albert County, and driving this fish from their usual haunts.

SALMON.

Quite an increase is to be noticed in the catch this season over last, mainly due, I am sure, to the increased vigilance of the guardians, and also to a larger number of sportsmen, both local and fore gn, visiting the streams than ever before. The general public have little or no idea of the immense source of wealth those salmon rivers are to our people, both direct and indirect, and it is a pleasure for officers to be able to report on those game fish increasing in numbers annually.

TROUT.

A slight increase is noticed in the returns for trout, and many of the officers believe that the waters frequented by them are being overfished, but this is denied by others.

PICKEREL.

Quite a good business was done by those engaged in this fishery, and it was sharply carried on by them. While part of the catch was retained for home consumption, the greatest part was exported, principally to the United States markets.

SYNOPSES OF FISHERY OVERSEER'S REPORTS.

Overseer Stewart, of Albert county, reports that shad came up the Bay of Fundy one month earlier than usual, and in good condition, but as soon as mill refuse began running down the river and settled on the shores, they soon departed. This was especially noticeable in Little Rocher Bay, where shad was so numerous in former years. There was an increased run in the Petitcodiac this year. Herring fishing was a failure. Mackerel did not come into the bay here as formerly. Salmon were scarce and late arriving, owing to the water in the rivers being low. Trout were plentiful and good catches were made by sportsmen and others. The one fish-way in this county was repaired this summer and put in order. A great decrease has taken place in the fisheries in this county, caused, I am sure, by the sawdust and mill refuse settling on the feeding grounds, and something should be done at once. Close seasons have been well observed. The close season for taking salmon should extend to September 15 instead of August 15, as this fish are late in arriving here.

Overseer Case, of Queen's County, reports the catch of shad the same as last season, and an increase of alewives over former years. Fishing of all kinds is on the increase and becoming of more importance annually. Alewive fishermen are jealous of the St. John fishermen on account of being deprived of the Friday night fishing. Except the Friday night close time the fishing laws have been well observed. Salmon show a slight falling off from last season. Bass are very scarce from over-fishing in the Belleisle Bay, where they seem to lay during the winter season. The trout streams have been over-fished and I would earnestly advocate the prohibition of trout fishing for one or two seasons, so that our lakes and streams may be again stocked. There should also be a close season for pickerel from the last of May till the 1st of September. They are taken principally for export to American markets and often spoil during those warm months while being transported.

Overseer Hoben, of Sunbury county, reports an increase in the catch of shad and alewives. There has also been a large catch of perch and pickerel. Alewives are increasing in these waters notwithstanding the good catches. The only abuses that exist are the large amount of sawdust and buckwheat hulls that come down the rivers. Close seasons have been fairly well kept. I would suggest that the Friday night close time be enforced in future at St. John as it is enforced here.

Overseer Ryan, of Victoria county, reports that from information received there has been considerable illegal fishing in the Tobique River during September and October, but he had no orders to go there. The catch of salmon was small, owing, he says, not to the scarcity of fish, but to the lack of sportsmen to catch them. Therefore, the poachers got the benefit of the run in the autumn months, as there was not any protection given after the first day of October. Spearing salmon is still carried on in some localities and

the appointment of special guardians is the only remedy. Close seasons in my immediate vicinity have been well observed. Local fishing for trout is about the same as other years.

Overseer Orr, of York county, reports that the catch of salmon has fallen away about one-third, for which he cannot account. Very good salmon fishing was had by the numerous sportsmen who visited the Miramichi River, and the catch was double that of last year. The Burnt Hill Salmon Club looked well after the interests of the river fishing and stopped all poaching. The two special guardians did their duty well and faithfully and I can safely state that no poaching was done. On the St. Croix lakes, land-locked salmon and trout were very plenty and are increasing. I would recommend the guardian on those lakes be reappointed on the 1st March, and make two visits each month to them. The close seasons have been well observed, and no complaints have been made. I would strongly recommend a fish-way to be placed in the Eel River as soon as possible.

Overseer O'Brien, of St. John, reports that there was a falling off in the catch of gaspereaux this year, caused by the river being very low in April and first part of May, thus allowing the fish to pass through the falls to the river and lakes, where they were followed by our fishermen and fair hauls were made.

Shad were not so plentiful as last season, but in the Bay of Fundy a good catch was had. Prices for them were very good and made up for the falling off in the catch. Herring were more plentiful than in the previous season, but prices very low. The inspection of them was so strict also, that the fish were not worth catching, and our vessels were obliged to lie up. Salmon still show a falling away in the catch, and if the over-fishing in the Bay of Fundy and river is not stopped we will soon have nothing of those fish left but the name.

The decrease in the catch of line fish is due to the very few men fishing for them in consequence of the low prices paid. A good business was done last spring by selling alewives to bank fishermen for bait.

Guardian Splane, of Pisarinco, reports that the catch of salmon this season was not up to the average. Shad fishing was very good, and showed an increase over last season. Lobster fishing was very good, and a good season's work was realized.

Overseer Rourke, of Saint Martin's, reports that, although much might be done by energetic fishermen in his district, very little is actually done in the fishing line. The natives there have lost all interest in fishing. One man operated here for a short time last winter and summer, and made a fair catch. No infringement of "The Fisheries Act" occurred.

Overseer Belyea, of Westfield, reports salmon fishing not as good as last season, on account of increased net fishing in St. John harbour, he thinks. Shad fishing was not as good this year as last on account of the fish being scarce. Alewives were more plentiful than last season in consequence of there being no freshet in the river, allowing the fish to come through the falls. All the close seasons have been well observed. Less pickerel were taken, as prices for them were low and few fished for them. I would strongly recommend that sturgeon fishing be allowed next season as there are a number of fishermen here having nets that will be a total loss if not used soon.

Overseer Heine, of Norton, reports that the last season's catch of shad have been below the average. Considerable illegal fishing has been carried on all over the county, which tended to prevent fish ascending the rivers. Some think the steam dredge at St. John kept the fish back. Alewives were very numerous and went further up the streams. Salmon were very numerous. No illegal salmon fishing was attempted. Shad fishing is the most valuable in this district, but where the most fishing is done the marshes are covered, and a canoe should be supplied.

Overseer Gray, of Springfield, reports that as he was only appointed in July last, he is unable to render as full a report as he would like, but the fisheries were well looked after. Good catches were made by sportsmen and others, and fair prices ruled in the markets for the catch.

I have the honour to be, sir,
Your obedient servant,
JOHN H. PRATT,
Inspector of Fisheries.

NEW BRUNSWICK—District No. 1.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries; Quantity and Value of Fishing Material; Kinds and Quantities of Fish, and the Total Number of Men employed, &c, in District No. 1, of the **Province of New Brunswick**, for the Year 1892.

DISTRICTS.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						KINDS OF FISH.							
	Vessels.				Boats.			Nets.		Weirs.		Lobster Traps.		Salmon, fresh, in ice, lbs.	Mackerel, barrels.	Herring, barrels.	Herring, frozen, per 100.	Herring, smoked, lbs.	Alewives, barrels.	Cod, cwt.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Value.								
Charlotte County.			$			$			$		$		$								
West Isles	6	80	2500	28	263	10000	273	6000	3000	102	45900	2380	1190	....	....	2700	. . .	180000	....	1000	
Ste. Croix	. .	....	. .	....	6	525	.....	60	75	5	1000	.....	...	525	....	30	.....	.....	120	.....	
Magaguadavic	....	....	.....	....	....	.....	.....	.....	.....	....	.....	....	....	....	....	.....	...	.....	30	.....	
Passamaquoddy	1	11	300	4	78	2340	76	400	400	33	9900	822	822	....	2	.....	...	10000	....	100	
Beaver Harbour	21	318	7000	96	203	3068	250	7340	3670	65	6500	2360	1180	....	98	2730	. . .	65000	....	1743	
Grand Manan	12	221	5500	43	306	41390	590	32940	9137	24	24000	9500	9500	....	195	7149	440000	13150000	...	6755	
Campo Bello	20	336	8850	100	147	6498	291	5204	3950	22	8800	490	245	....	....	2826	.....	758000	...	854	
Totals	60	966	24150	271	1003	63821	1480	51944	20232	251	96100	15552	12937	525	295	15435	440000	14163000	150	10452	

RETURN showing the Number, Tonnage and Value of Vessels and Boats, engaged in the Fisheries; Quantity and Value of Fishing Material, &c., District No. 1, **Province of New Brunswick,** for the Year 1892—*Concluded.*

DISTRICTS.	KINDS OF FISH.																		FISH PRODUCTS.				VALUE.
	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Hake sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Clams, canned.	Clams, shelled, brls.	Trout, lbs.	Frost fish, lbs.	Squid, barrels.	Flounders, lbs.	Smelts, lbs.	Pickerel, lbs.	Sardines, hhd.	Sardines, canned.	Lobsters, tons.	Lobsters, cans.	Fish Oil, gallons.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	
Charlotte Co.																							$ cts.
West Isles	....	4375	1640	2000	2000	.....	.....	....	.....	....	....	.....	.....	....	8500	.....	89¼	...	3000	....	1000	100	89,865 00
Ste. Croix	....	.....	.....	.....	.....	.....	.....	....	4000	500	....	.....	6000	2000	120	....	...	...	.....	.....	.....	.....	2,145 00
Magaguadavic	.....	.....	...	.....	.....	.....	.....	....	1000	300	....	.....	400	...	.....	.....	.....	...	.....	.....	.....	.....	270 00
Passamaquoddy	...	240	.....	....	175	.....	.....	....	5000	....	...	8000	....	..	4808	.....	45	....	.....	.....	500	2000	27,596 50
Beaver Harbour	....	720	4600	3149	1437	16000	30000	1200	.....	....	10	2200	....	...	8375	150000	120	1440	5775	61	3075	300	110,021 60
Grand Manan	3	6425	7500	7500	1525	65800	.....	....	.....	....	....	.....	.....	.....	170	.....	410	....	33025	....	3550	15050	428,745 50
Campo Bello	....	4054	10575	11645	4396	165000	.....	....	.....	....	205	....	....	....	82	.....	84	....	8577	....	1125	57	121,886 30
Totals	3	15814	24315	24285	9533	246800	30000	1200	10000	800	215	10200	6400	2000	22055	150000	748¼	1440	50377	61	9250	17507	780,529 90
Home consumption and canned goods not elsewhere specified																							82,936 00
Total value																							863,465 90

RECAPITULATION

Of the Yield and Value of the Fisheries, District No. 1, **New Brunswick**, for the Year 1892.

Kinds of Fish.		Quantity.	Price.	Value.
			$ cts.	$ cts.
Salmon, fresh, in ice	Lbs.	525	0 20	105 00
Mackerel, salt	Brls.	295	14 00	4,130 00
Herring	"	15,435	4 50	69,457 50
" frozen, per 100	No.	440,000	0 75	3,300 00
" smoked	Lbs.	14,163,000	0 02	283,260 00
Alewives	Brls.	150	4 50	675 00
Cod	Cwt.	10,452	4 50	47,034 00
" tongues and sounds	Brls.	3	10 00	30 00
Pollack	Cwt.	15,814	3 00	47,442 00
Hake	"	24,315	3 00	72,945 00
" sounds	Lbs.	24,285	0 50	12,142 50
Haddock	Cwt.	9,533	3 50	33,365 50
Halibut	Lbs.	246,800	0 10	24,680 00
Trout	"	10,000	0 10	1,000 00
Frost fish	"	800	0 05	40 00
Flounders	"	10,200	0 05	510 00
Smelts	"	6,400	0 05	320 00
Pickerel	"	2,000	0 05	100 00
Squid	Brls.	215	4 00	860 00
Sardines	Hhd.	22,055	4 50	99,247 50
" canned	Cans.	150,000	0 04	6,000 00
Lobsters	Tons.	748¼	40 00	29,930 00
" canned	Cans.	1,440	0 14	201 60
Clams, shelled	Brls.	1,200	6 00	7,200 00
" canned	Cans.	30,000	0 05	1,500 00
Fish oil	Galls.	50,377	0 40	20,150 80
" guano	Tons.	61	25 00	1,525 00
" used as bait	Brls.	9,250	0 50	4,625 00
" used as manure	"	17,507	0 50	8,753 50
Home consumption, and canned goods not elsewhere specified				82,936 00
Total				863,465 90

NUMBER and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of District No. 1, **New Brunswick,** for the Year 1892.

Number.	Material.	Value.	Total.
		$ cts.	$ cts.
60	Vessels, 996 tons	24,150 00	
1,003	Boats	63,821 00	
51,944	Fathoms of nets	20,232 00	
251	Weirs	96,100 00	
15,552	Lobster traps	12,937 00	
			217,240 00
1	Sardine factory and lobster factory combined	2,500 00	
1	Lobster and clam factory combined	1,000 00	
1	Fertilizing factory	40,000 00	
2	Ice houses	400 00	
502	Smoke houses and fixtures	85,900 00	
413	Fish houses and fixtures	47,600 00	
71	Oil presses and fixtures	5,395 00	
806	Trawls	15,058 00	
271	Weir seines	16,445 00	
			214,298 00
	Total value		431,538 00

NEW BRUNSWICK—District No. 2.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries; Quantity and Value of Fishing Material; Kinds and Quantities of Fish, and the Total Number of Men employed, &c., in District No. 2, Province of **New Brunswick**, for the year 1892.

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.							KINDS OF FISH.									
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets		Lobster Traps.											
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon, brls.	Salmon, fresh in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, brls.	Mackerel, in cans.	Herring, brls.	Herring, smoked, lbs.	Alewives, brls.	Cod, cwt.
Restigouche Co.			$			$			$		$		$		$										
Tide Head to Dalhousie	..	....	.....	....	30	600	36	7160	7160	....	....	....	.....	.....	.. ..	..	51560	....	.. ..	.....	.....	....	.....	.....	.. ...
Dalhousie to Belledune	..	....	.....	....	100	1600	150	15500	15500	....	....	5	100	3800	3000	..	103280	....	20000	100	.....	400	47500	....	150
Totals	..	....	. ...	....	130	2200	186	22660	22660	....	....	5	100	3800	3000	..	154840	...	20000	100	....	400	47500	....	150
Gloucester Co.																									
Petit Rocher	..	.. ..	.....	....	450	6700	1000	15000	10000	....	....	2	40	5000	5000	..	72000	....	.....	300	42000	5000	.....	100	4500
Bathurst, &c	..	....	....	...	230	4300	430	20615	15000	....	....	12	300	9000	9000	..	430000	...	. ..	750	.....	3200	.....	250	7050
Grande Anse	2	64	2000	8	209	4067	447	5256	2000	*2	6000	.	.....	7900	7900	..	32275	....	300	2050	12720	3000	....	...	3500
Upper Caraquet	2	30	1500	8	47	14620	120	2900	2000	....	....	15	225	.....	.....	..	.....	....	...	425	...	2000	.	....	6000
Caraquet	7	87	6300	22	124	49600	370	12500	5500	....	....	7	105	3480	3480	..	800	....	400	1460	1000	11000	62500	....	16000
Shippegan and Miscou	27	335	16600	98	261	24550	540	16700	7000	....	...	21	565	22350	18000	..	17620	....	2500	920	1550	6500	.....	....	15600
Pokemouche	2	25	1500	6	160	3200	260	13125	7875	....	....	60	1800	200	200	..	12000	....	...	1200	25000	2500	.....	850	1500
Tracadie	5	51	4000	16	132	2600	270	13700	5550	....	...	68	2400	3200	3200	..	16500	....	240	390	11040	3100	.....	780	1680
Totals	45	592	31900	158	1613	109637	3437	99796	54925	2	6000	185	5435	51130	46780	..	581195	....	3440	7495	93310	36300	62500	1980	55830

*Mackérel traps.

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	KINDS OF FISH.																			FISH PRODUCTS.				VALUE.
	Cod Tongues and Sounds, brls.	Pollack, cwt.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, brls.	Bass, lbs.	Trout, lbs.	Frost fish, lbs.	Squid, brls.	Flounders, lbs.	Smelt, lbs.	Pickerel, lbs.	Perch, lbs.	Eels, brls.	Oysters, brls.	Lobsters, tons.	Lobsters, cans.	Fish Oil, galls.	Fish Guano, tons.	Fish used as bait, brls.	Fish used as manure, brls.	
Restigouche Co.																								$ cts.
Tide Head to Dalhousie									10000									5						11,512 00
Dalhousie to Belledune									2000				16700						63600			400	1000	39,520 00
Totals									12000				16700					5	63600			400	1000	51,032 00
Gloucester Co.																								
Petit Rocher	5		200	150					500			5000	7000						65000	1000		2000	6000	83,715 00
Bathurst, &c	8							3600	3500	1000			140000			50			160000	1600		2000		177,950 00
Grande Anse	4		400	350			25												108060	1500		3000	2000	88,869 80
Upper Caraquet	5		460	400	740	1200		2000	1400		15		17000			20	750			2300		1200	1000	53,130 00
Caraquet	12		2400	2000	400	120000		1800	400		10		15000			25	50		104400	7000		4000	2000	191,004 00
Shippegan and Miscou	15		2500	4000	320	2500	20	21000					40000						417000	8500		7350	5000	206,200 00
Pokemouche	4		120	130	150	1840	25	5400	3500	5000		1500	62000		200	50			6500	1400	40	2200	3200	56,795 20
Tracadie	20		680	600	920	1260	20	1420	2200	1500	11	2500	46000		200	55			55000	800		1600		55,056 80
Totals	73		6760	7630	2530	126800	90	34620	11500	7500	36	9000	327000		400	200	800		915960	24100	40	23350	19200	912,720 80

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								KINDS OF FISH.									
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets		Lobster Traps.											
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon, brls.	Salmon, fresh in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, brls.	Mackerel, in cans.	Herring, brls.	Herring, smoked, lbs.	Alewives, brls.	Cod, cwt.
Northumberland Co.			$			$			$		$		$		$										
Neguac and Tabusintac	..	..	..	..	119	2980	175	15475	6855	..	..	135	5400	2950	2950	..	79800	..	..	300	..	3200	20000	360	500
Bay du Vin, &c	4	135	6200	10	159	4875	410	50000	50000	..	..	178	5340	7100	7100	..	97590	..	..	625	14000	1600	15000	500	400
Chatham, &c	6	160	4200	32	120	2400	220	8850	8850	..	..	240	12000	..	..	..	84000	..	..	1110	..	200	..	450	400
South-west Miramichi	..	..	..	..	55	1000	75	1150	1150	30	300	..	..	..	..	35	49480	1450	..	..	..	..	..	950	..
North-west Miramichi	..	..	..	..	45	1000	60	1136	1136	..	..	..	..	..	..	..	37200	..	..	..	..	..	..	812	..
Totals	10	295	10400	42	498	12255	940	76611	67991	30	3000	553	22740	10050	10050	35	348070	1450	..	2035	14000	5000	35000	3072	1300
Kent Co.																									
Hartcourt, &c	..	..	..	..	5	200	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Louis, &c	..	..	..	..	190	8000	500	9450	5650	..	..	100	3000	1000	1000	..	38700	..	..	3400	4000	6000	..	350	3000
Richibucto, &c	4	67	2800	10	194	8760	388	12900	5160	..	..	102	4080	13200	13200	..	16000	..	..	1550	6500	8980	..	1550	2540
Buctouche, &c	..	..	..	..	286	7850	530	18500	7600	..	..	200	5700	11500	11500	..	800	..	..	3000	8000	4000	..	1700	300
Cocagne	..	..	..	..	210	5100	400	12000	6000	..	..	47	1000	7750	7750	..	..	..	..	500	1000	3000	..	500	200
Totals	4	67	2800	10	885	29910	1833	52850	24410	..	..	449	13780	42450	42450	..	55500	..	..	8450	19500	21980	..	4100	6040

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	KINDS OF FISH.																		FISH PRODUCTS.				VALUE.
	Cod Tongues and Sounds, brls.	Pollack, cwt.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, brls.	Bass, lbs.	Trout, lbs.	Frost fish, lbs.	Squid, brls.	Flounders, lbs.	Smelts, lbs.	Pickerel, lbs.	Perch, lbs.	Eels, brls.	Oysters, brls.	Lobsters, tons.	Lobsters, cans.	Fish Oil, galls.	Fish Guano, tons.	Fish used as bait, brls.	Fish used as manure, brls.	
Northumberland Co.																							$ cts.
Neguac and Tabusintac	2	...	200	200	....	1300	40	.....	2400	5000	..	2000	272000	....	..	180	100	....	50200	1100	....	2000	1000	67,337 00
Bay du Vin, &c.	1	...	400	350	100	6000	150	.....	1500	59000	..	20000	391800	...	....	30	12000	...	135920	520	250	3000	2000	135,959 80
Chatham, &c.	1	...	100	100	...	....	150	.....	2500	200000	..	100000	820000	....	....	20	1200	...	.....	200	....	300	1000	99,955 00
South-west Miramichi	.....	.....	.....	.....	.....	.....	25	.....	1410	.....	..	..	..	.....	....	....	..	....	.....	.....	....	...	.....	14,852 00
North-west Miramichi	...	...	.....	.....	.....	...	85	.....	7200	....	..	....	....	....	...	60	.....	....	.....	..	...	.....	....	13,264 00
Totals	4	...	700	650	100	7300	450	.....	15010	255000	..	122000	1483800	....	....	290	13330	....	186120	1820	250	5300	4000	331,367 80
Kent Co.																							
Hartcourt, &c.	.....	.....	.....	.....	.....	.....	.....	.....	10000	.....	..	.....	.....	.....	.....	.....	.....	...	.....	.....	...	.....	.....	1,000 00
St. Louis, &c.	4	100	2000	2500	1500	1200	25	3000	5200	4000	..	3000	386000	8000	....	150	100	....	308200	1000	....	2000	1000	180,703 00
Richibucto, &c.	13	...	3150	6000	1200	2450	20	4350	4150	6200	..	21000	713000	....	2000	150	540	....	315000	1600	..	2440	440	192,286 00
Buctouche, &c.	....	100	450	400	200	500	15	4500	2000	4000	..	25000	390000	....	....	70	2500	....	250000	1000	....	3500	.....	143,265 00
Cocagne	....	...	150	150	120	100	..	2000	2100	6000	..	5000	93560	....	....	160	500	....	244000	200	....	2500	.....	71,403 00
Totals	17	200	5750	9050	3020	4250	60	13850	23450	20200	..	54000	1582560	8000	2000	530	3640	....	1117200	3800	..	10440	1440	588,657 00

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								KINDS OF FISH.									
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets		Lobster Traps.											
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon, brls.	Salmon, fresh in ice, lbs.	Salmon, smoked, lbs.	Salmon, in cans, lbs.	Mackerel, brls.	Mackerel in cans.	Herring, brls.	Herring, smoked, lbs.	Alewives, brls.	Cod, cwt.
Westmorland Co.			$			$			$		$				$										
Shediac and Botsford	1	34	800	5	750	12000	1550	14000	7000	...	...	150	3000	45000	40000	..	800	. ..	.....	300	2000	11000	.....	300	100
Westmoreland and Sackville	...	...	.....	....	26	1210	47	4285	1700	...	....	29	580	.....	....	.	1000	....	.....	50	.....	2500	8000	450	50
Dorchester, &c.	...	...	.....	....	29	1740	58	7450	2790	....	.....	...	....	....	... ..	23	1200	....	.....	.....	..	.....	....	....	.....
Totals	1	60	800	5	805	14950	1655	25735	11490	...	....	179	3580	45000	40000	23	3000	....	.....	350	2000	13500	8000	750	150
Grand totals	60	988	45900	215	3931	168952	8051	277652	181476	*2 †30	6000 3000	1371	45635	152430	142280	58	1142605	1450	23440	18430	128810	77180	153000	9902	63470

* Mackerel traps. † Weirs.

NEW BRUNSWICK—District No. 2—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	KINDS OF FISH.																			FISH PRODUCTS.				VALUE.
	Cod Tongues and Sounds, brls.	Pollack, cwt.	Hake, cwt.	Hake Sounds, lbs.	Haddock, cwt.	Halibut, lbs.	Shad, brls.	Bass, lbs.	Trout, lbs.	Frost fish, lbs.	Squid, brls.	Flounders, lbs.	Smelts, lbs.	Pickerel, lbs.	Perch, lbs.	Eels, brls.	Oysters, brls.	Lobsters, tons.	Lobsters, cans.	Fish Oil, galls.	Fish Guano, tons.	Fish used as bait, brls.	Fish used as manure, brls.	
Westmoreland Co.																								$ cts.
Shediac and Botsford	....	....	....	....	....	....	....	3200	1000	6000	40	5000	410000	....	....	200	100	200	920000	500	....	7000	1000	227,602 00
Westmoreland and Sackville	....	....	50	....	....	....	460	3000	1000	2500	..	. .	88490	....	....	40	.....	...	.....	100	....	2000	100	27,625 00
Dorchester, &c	....	....	....	....	....	....	785	.....	800	....	..	.....	.. ....	....	....	20	. ....	....	.....	100	....	. . .	. ...	8,778 00
Totals	....	....	50	....	....	.....	1245	6200	2800	8500	40	5000	498400	....	....	260	100	200	920000	700	....	9000	1100	264,005 00
Grand totals	94	200	13260	17330	5650	138350	1845	54670	64760	291200	76	190000	3908460	8000	2400	1280	17840	205	3202880	30420	290	48490	26740	2,147,782 60

RECAPITULATION

Of the Yield and Value of the Fisheries in District No. 2, **New Brunswick**, for the year 1892.

Kinds of Fish.		Quantity.	Price.	Value.
			$ cts.	$ cts.
Salmon, salted	Brls.	58	16 00	928 00
" fresh	Lbs.	1,142,605	0 20	228,521 00
" smoked	"	1,450	0 20	290 00
" in cans	"	23,440	0 15	3,516 00
Mackerel	Brls.	18,430	14 00	258,020 00
" in cans	Lbs.	128,810	0 12	15,457 20
Herring	Brls.	77,180	4 50	347,310 00
" smoked	Lbs.	153,000	0 02	3,060 00
Alewives	Brls.	9,902	4 50	44,559 00
Cod	Cwt.	63,470	4 50	285,615 00
" tongues and sounds	Brls.	94	10 00	940 00
Pollock	Cwt.	200	3 00	600 00
Hake	"	13,260	3 00	39,780 00
" sounds	Lbs.	17,330	0 50	8,665 00
Haddock	Cwt.	5,650	3 50	19,775 00
Halibut	Lbs.	138,350	0 10	13,835 00
Shad	Brls.	1,845	10 00	18,450 00
Bass	Lbs.	54,670	0 06	3,280 20
Trout	"	64,760	0 10	6,476 00
Frost fish	"	291,200	0 05	14,560 00
Squid	Brls.	76	4 00	304 00
Flounders	Lbs.	190,000	0 05	9,500 00
Smelts	"	3,908,460	0 05	195,423 00
Pickerel	"	8,000	0 05	400 00
Perch	"	2,400	0 03	72 00
Eels	Brls.	1,280	10 00	12,800 00
Oysters	"	17,840	3 00	53,520 00
Lobsters	Tons.	205	40 00	8,200 00
"	Cans.	3,202,880	0 14	448,403 20
Fish oil	Galls.	30,420	0 40	12,168 00
" guano	Tons.	290	25 00	7,250 00
" as bait	Brls.	48,490	1 50	72,735 00
" as manure	"	26,740	0 50	13,370 00
Total				2,147,782 60

NUMBER and Value of Vessels, Boats, Nets, Weirs, Traps, &c., engaged in the Fisheries in District No. 2, **New Brunswick**, in the year 1892.

Material.	Value.	Total.
	$ cts.	$ cts.
60 vessels (aggregate tonnage, 988)	45,900 00	
3,931 boats	168,952 00	
277,652 fathoms nets	181,476 00	
30 weirs	3,000 00	
1,371 smelt nets	45,635 00	
152,430 lobster traps	142,280 00	
2 mackerel traps	6,000 00	
		593,243 00
8 salmon and mackerel canneries	4,000 00	
185 lobster factories	178,500 00	
40 freezers	42,000 00	
85 ice houses	16,500 00	
10 smoke houses and fixtures	2,000 00	
5 oil presses and fixtures	500 00	
172 trawls	3,500 00	
		247,000 00
Total		840,243 00

NEW BRUNSWICK—District No. 3.

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, and the Total Number of Men employed, &c., in District No. 3, of the Province of **New Brunswick,** for the Year 1892.

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.						KINDS OF FISH.			
	Vessels.				Boats.			Nets.		Weirs.		Lobster Traps.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	Salmon, fresh, in ice, lbs.	Herring, barrels.	Herring, smoked, bloaters, lbs.	Alewives, barrels.
			$			$			$		$		$				
Albert County										3	200			2000			
Queen's "	2	20	220	9	251	3510	502	19763	6706					800			1603
Sunbury "	2	24	240	8	121	949	180	3700	2010					1900			1724
Victoria "					60	700	80	300	300					5000			
York "					100	2000	200	3750	1500					11500			
St. John and vicinity	18	357	7000	76	258	10320	530	76800	57600	28	8400	4000	3000	129480	2400	325000	6000
St. Martin's and vicinity					1	20	3	60	20	1		40	25		25		
Pisarinco "					101	3030	405							97500			
Westfield "					81	810	91	3490	1318					13860			1729
Kennebecassis "					10	150	23										12
Belleisle "					20	117	141	4624	1344								35
Totals	22	401	7460	93	1003	21606	2155	112487	70798	32	8600	4040	3025	262040	2425	325000	11103

NEW BRUNSWICK—District No. 3—*Continued.*

RETURN showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

DISTRICT.	KINDS OF FISH.													FISH PRODUCTS.					VALUE.
	Cod, cwt.	Cod Tongues and Sounds, barrels.	Pollack, cwt.	Hake, cwt.	Haddock, cwt.	Halibut, lbs.	Shad, barrels.	Bass, lbs.	Trout, lbs.	Pickerel, lbs.	Perch, lbs.	Eels, barrels.	Lobsters, tons.	Fish Oil, gallons.	Fish Roes, barrels.	Fish Guano, tons.	Fish used as bait, barrels.	Fish used as manure, barrels.	$ cts.
Albert County	....	....	....	....	....	....	15	....	500	....	....	....	....	....	....	....	....	....	600 00
Queen's "	....	....	....	....	....	....	853	....	1500	54000	4500	....	....	....	....	....	....	....	18,888 50
Sunbury "	....	....	....	....	....	....	233	1200	400	28500	6000	....	....	....	....	....	....	....	12,185 00
Victoria "	....	....	....	....	....	....	50	....	20000	....	3000	10	....	....	....	....	....	....	3,690 00
York "	....	....	....	....	....	....	165	....	9500	....	....	....	....	....	....	....	....	....	4,900 00
St. John and vicinity	600	12	250	....	1250	380	2500	....	....	....	....	80	120	100	....	....	800	....	109,219 00
St. Martin's and vicinity	25	....	15	....	....	....	....	....	1600	....	....	....	3	....	....	....	....	....	550 00
Pisarinco "	....	....	....	....	....	....	720	....	....	....	....	....	56¼	....	....	....	....	....	28,950 00
Westfield "	....	....	....	40	....	....	100	....	1000	22000	....	....	....	....	....	....	....	....	12,872 50
Kennebecassis "	....	....	....	....	....	....	34	....	500	2000	400	....	....	....	....	....	....	....	556 00
Belleisle "	....	....	....	....	....	....	3	....	....	1500	....	....	....	....	....	....	....	....	262 50
Totals	625	12	265	40	1250	380	4673	1200	35000	108000	13900	90	179¼	100	....	....	800	....	
Total value of catch																			192,673 50

Marine and Fisheries.

RECAPITULATION

Of Yield and Value of the Fisheries in District No. 3, **New Brunswick.**

Kinds of Fish.		Quantity.	Price.	Value.
			$ cts.	$ cts.
Salmon, fresh, in ice	Lbs.	262,040	0 20	52,408 00
Herring, salt	Brls.	2,425	4 50	10,912 50
" smoked (bloaters)	Lbs.	325,000	0 02	6,500 00
Alewives	Brls.	11,103	4 50	49,963 50
Cod	Cwt.	625	4 50	2,812 50
" tongues and sounds	Brls.	12	10 00	120 00
Pollack	Cwt.	265	3 00	795 00
Hake	"	40	3 00	120 00
Haddock	"	1,250	3 50	4,375 00
Halibut	Lbs.	380	0 10	38 00
Shad	Brls.	4,673	10 00	46,730 00
Bass	Lbs.	1,200	0 06	72 00
Trout	"	35,000	0 10	3,500 00
Pickerel	"	108,000	0 05	5,400 00
Perch	"	13,900	0 03	417 00
Eels	Brls.	90	10 00	900 00
Lobsters	Tons.	179¼	40 00	7,170 00
Fish oil	Galls.	100	0 40	40 00
Fish used as bait	Brls.	800	0 50	400 00
Total value of catch, 1892				192,673 50
" " 1891				215,681 04
Decrease				23,007 54

Number and Value of Vessels, Boats, Nets, Weirs, &c., engaged in the Fisheries of District No. 3, **New Brunswick.**

Material.	Value.	Total.
	$ cts.	$ cts.
22 vessels (401 tons)	7,460 00	
1,003 boats	21,606 00	
112,487 fathoms of nets	70,798 00	
32 weirs	8,600 00	
4,040 lobster traps	3,025 00	
		111,489 00
5 ice houses	1,000 00	
30 smoke houses and fixtures	6,000 00	
12 fish " "	12,000 00	
6 oil presses and fixtures	600 00	
30 trawls	600 00	
3 weir seines	180 00	
		20,380 00
Total value of materials		131,869 00

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries; Quantity and Value of Fishing Material; Kinds and Quantities of Fish and the Total Number of Men Employed, &c., in the whole Province of **New Brunswick,** for the year 1892.

COUNTIES.	Vessels and Boats employed in Fishing.							Fishing Material.								Kinds of Fish.		
	Vessels.				Boats.			Nets.		Weirs.		Smelt Nets.		Lobster Traps.				
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Salmon.	Salmon, fresh, in ice.	Salmon, smoked.
			$			$			$		$		$		$	Brls	Lbs.	Lbs.
Restigouche	....	....	....	....	130	2,200	186	22,660	22,660	..	.....	5	100	3,800	3,000	....	154,840	.....
Gloucester	45	592	31,900	158	1,613	109,637	3,437	99,796	54,925	*2	6,000	185	5,435	51,130	46,780	...	581,195	...
Northumberland	10	295	10,400	42	498	12,255	940	76,611	67,991	30	3,000	553	22,740	10,050	10,050	35	348,070	1,450
Kent	4	67	2,800	10	885	29,910	1,833	52,850	24,410	....	.....	449	13,780	42,450	42,450	....	55,500	.....
Westmoreland	1	34	800	5	805	14,950	1,655	25,735	11,490	....	.....	179	3,580	45,000	40,000	23	3,000	.....
Albert	....	....	....	....	....	.....	.....	.....	.....	3	200	....	.....	.....	.....	....	2,000	.....
St. John	18	357	7,000	76	360	13,370	938	76,860	57,620	29	8,400	....	.....	4,040	3,025	....	226,980	.....
King's	....	....	....	....	111	1,077	255	8,114	2,662	....	.....	.....	.....	.....	.....	....	13,860	.....
Queen's	2	20	220	9	251	3,510	502	19,763	6,706	...	.....	.....	...	.....	.....	...	800	.....
Sunbury	2	24	240	8	121	949	180	3,700	2,010	....	.....	.....	.....	.....	.....	....	1,900	.....
York	...	....	.....	....	100	2,000	200	3,750	1,500	...	.....	...	...	.....	.....	....	11,500	.....
Victoria	....	.....	...	....	60	700	80	300	300	....	.....	....	.....	.....	.....	....	5,000	.....
Charlotte	60	966	24,150	271	1,003	63,821	1,480	51,944	20,232	251	96,100	..	.....	15,552	12,937	....	525	.....
Totals	142	2,355	77,510	579	5,937	254,379	11,686	442,083	272,506	313	107,700	1,371	45,635	172,022	158,242	58	1,405,170	1,450

* Mackerel traps.

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

COUNTIES.	Kinds of Fish.																	
	Salmon, in cans.	Mackerel.	Mackerel, in cans.	Herring.	Herring, frozen.	Herring, smoked.	Alewives.	Cod.	Cod Tongues and Sounds.	Pollock.	Hake.	Hake, Sounds.	Haddock.	Halibut.	Clams, canned.	Shad.	Bass.	Trout.
	Lbs.	Brls.	Lbs.	Brls.	p. 100	Lbs.	Brls.	Cwt.	Brls	Cwt.	Cwt.	Lbs.	Cwt.	Lbs.	Lbs.	Brls.	Lbs.	Lbs.
Restigouche	20,000	100	.....	400	.....	47,500	....	150	...	...	.....	.....	.....	.....	..	.....	.. .	12,000
Gloucester	3,440	7,495	93,310	36,300	.....	62,500	1,980	55,830	73	.....	6,760	7,630	2,530	126,800	.....	90	34,620	11,500
Northumberland	...	2,035	14,000	5,000	.....	35,000	3,072	1,300	4	....	700	650	100	7,300	.....	450	.....	15,010
Kent	.....	8,450	19,500	21,980	.....	.....	4,100	6,040	17	200	5,750	9,050	3,020	4,250	...	60	13,850	23,450
Westmoreland	.....	350	2,000	13,500	.....	8,000	750	150	....	.....	50	50	....	.....	.....	1,245	6,200	2,800
Albert	.....	.....	.....	2,425	.....	325,000	....	.....	....	.....	....	....	....	.....	.....	15	...	500
St. John	.....	.....	.....	..	.....	....	6,000	625	12	265	..	.....	1,250	380	....	3,220	.....	1,600
King's	.....	.....	.....	.....	.....	....	1,776	.....	....	.....	40	.....	....	.....	.. ..	137	.....	1,500
Queen's	.....	.....	.....	..	....	.....	1,603	.....	....	...	....	....	....	.. ..	.....	853	....	1,500
Sunbury	.....	.....	.....	.....	.....	....	1,724	.....	....	.....	.....	.. ..	.....	.....	....	233	1,200	400
York	.....	.....	.....	....	.....	....	.....	.....	....	.....	.. .	.....	.....	.....	.....	165	.....	9,500
Victoria	.. ...	...	.....	.....	.. ....	.....	.....	....	....	.. ..	...	....	... ..	.....	.....	50	.....	20,000
Charlotte	.....	295	.....	15,435	440,000	14,163,000	150	10,452	3	15,814	24,315	24,285	9,533	246,800	30,000 †1,200	.. .	... .	10,000
Totals	23,440	18,725	128,810	95,040	440,000	14,641,000	21,155	74,547	109	16,279	37,615	41,615	16,433	385,530	30,000	6,518	55,870	109,760

† Barrels.

RECAPITULATION showing the Number, Tonnage and Value of Vessels and Boats engaged in the Fisheries, &c.—*Continued.*

COUNTIES.	Kinds of Fish.											Fish Products.				Value.
	Frost fish.	Squid.	Flounders.	Smelt.	Pickerel.	Perch.	Eels.	Sardines.	Oysters.	Lobsters.	Lobsters.	Fish Oil.	Fish Guano.	Fish used as bait.	Fish used as manure.	
	Lbs.	Brls	Lbs.	Lbs.	Lbs.	Lbs.	Brls.	Hhds.	Brls.	Tons.	Cans.	Gals.	Tons.	Brls.	Brls.	$ cts.
Restigouche				16,700						5	63,600			400	1,000	51,032 00
Gloucester	7,500	36	9,000	327,000		400	200		800		915,960	24,100	40	23,350	19,200	912,720 80
Northumberland	255,000		122,000	1,483,800			290		13,300		186,120	1,820	250	5,300	4,000	331,367 80
Kent	20,200		54,000	1,582,560	8,000	2,000	530		3,640		1,117,200	3,800		10,440	1,440	588,657 00
Westmoreland	8,500	40	5,000	498,400			260		100	200	920,000	700		9,000	1,100	264,005 00
Albert																600 00
St. John							80			179¼		100		800		138,719 00
King's					25,500	400										13,691 00
Queen's					5,400	4,500										18,888 50
Sunbury					28,500	6,000										12,185 00
York																4,900 00
Victoria						3,000	10									3,690 00
Charlotte	800	215	10,200	6,400	2,000			22,055 ‡150,000		748¼	1,440	50,377	61	9,250	17,507	‖863,465 90
Totals	292,000	291	200,200	3,914,860	118,000	16,300	1,370	22,055	17,840	1,132½	3,204,320	80,897	351	58,540	44,247	3,203,922 00

‡ Cans.

‖ This amount includes $82,936 for home consumption not itemized.

RECAPITULATION

Of the Yield and Value of the Fisheries in the whole Province of **New Brunswick**, for the year 1892.

Kinds of Fish.		Prices.	Quantity.	Value.	Total Value.
		$ cts.		$ cts.	$ cts.
Salmon, salted	Brls.	16 00	58	928 00	
" fresh	Lbs.	0 20	1,405,170	281,034 00	
" smoked	"	0 20	1,450	290 00	
" in cans	"	0 15	23,440	3,516 00	
					285,768 00
Mackerel, salted	Brls.	14 00	18,725	262,150 00	
" in cans	Lbs.	0 12	128,810	16,457 20	
					277,607 20
Herring, salted	Brls.	4 50	95,040	427,680 00	
" smoked	Lbs.	0 02	14,641,000	292,820 00	
" frozen fresh	No.		440,000	3,300 00	
					723,800 00
Alewives	Brls.	4 50	21,155		95,197 50
Cod, dried	Cwt.	4 50	74,547	335,461 50	
" tongues and sounds	Brls.	10 00	109	1,090 00	
					336,551 50
Pollock	Cwt.	3 00	16,279		48,837 00
Haddock	"	3 50	16,433		57,515 50
Hake	"	3 00	37,615	112,845 00	
" sounds	Lbs.	0 50	41,615	20,807 50	
					133,652 50
Halibut	"	0 10	385,530		38,553 00
Shad	Brls.	10 00	6,518		65,180 00
Bass	Lbs.	0 06	55,870		3,352 20
Trout	"	0 10	109,760		10,976 00
Frost fish	"	0 05	292,000		14,600 00
Squid	Brls.	4 00	291		1,164 00
Smelts	Lbs.	0 05	3,914,860		195,743 00
Flounders	"	0 05	200,200		10,010 00
Pickerel	"	0 05	118,000		5,900 00
Perch	"	0 03	16,300		489 00
Eels	Brls.	10 00	1,370		13,700 00
Oysters	"	3 00	17,840		53,520 00
Clams	"	6 00	1,200	7,200 00	
"	Cans.	0 05	30,000	1,500 00	
					8,700 00
Sardines	Hhds.	4 50	22,055	99,247 50	
"	Cans.	0 04	150,000	6,000 00	
					105,247 50
Lobsters	Cans.	0 14	3,204,320	448,604 80	
"	Tons.	40 00	1,132½	45,300 00	
					493,904 80
Fish oil	Galls.	0 40	80,897		32,358 80
" as bait	Brls.		58,540		77,760 00
" as manure	"	0 50	44,247		22,123 50
" guano	Tons.	25 00	351		8,775 00
Fish for local consumption not included above					82,936 00
Total for 1892					3,203,922 00
" 1891					3,571,050 70
Decrease					367,128 70

TABLE

SHOWING the Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of **New Brunswick**, with approximate value of other Fishing Material for 1892.

Articles.	Value.	Total Value.
	$ cts.	$ cts.
142 vessels, 2,355 tons	77,510 00	
5,937 boats	254,379 00	
442,083 fathoms of nets	272,506 00	
313 weirs	107,700 00	
1,371 smelt nets	45,635 00	
		757,730 00
172,022 lobster traps	158,242 00	
185 " canneries	178,500 00	
		336,742 00
8 salmon canneries	4,000 00	
2 sardines and clam canneries	3,500 00	
274 seines	16,625 00	
1,008 trawls	19,158 00	
2 mackerel traps	6,000 00	
40 freezers	42,000 00	
92 ice-houses	17,900 00	
542 smoke houses with fixtures	93,900 00	
425 fish houses	59,600 00	
127 oil presses	6,495 00	
1 fertilizer factory	40,000 00	
		309,178 00
Total		1,403,650 00

STATEMENT of men engaged fishing in **New Brunswick**, 1892.

Men in vessels	579
" boats	11,686
Total	12,265

APPENDIX C.

PRINCE EDWARD ISLAND.

REPORT ON THE FISHERIES OF PRINCE EDWARD ISLAND FOR 1892, BY INSPECTOR EDWARD HACKETT.

TIGNISH, P.E.I., 31st December, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit herewith a report on the fisheries of the Province of Prince Edward Island, for the year 1892. The product of the fisheries of this province for the season just closed, amounts to the sum of $1,179,856.68, being a decrease as compared with the year 1891 of $58,877.13, as follows :—

Yield of fisheries, 1891	$1,238,733 81
" " 1892	1,179,856 68
Decrease	$ 58,877 13

This decrease is caused by the falling off in the catch of lobsters, the pack being 850,842 one-pound cans less than last year. Although the product for the year has fallen in value slightly below 1891, it still stands above the average, and may be classed as a fairly successful season. The winter of 1892 being very mild, the ice left the shores early, and fishing for lobsters commenced about the 1st of May. Great preparations had been made for this fishery, but the results were not so satisfactory as in 1891.

Herring were more abundant than in the previous year, and fishermen experienced no difficulty in providing an ample supply of bait for the lobster and mackerel fisheries.

Mackerel were plentiful on some parts of the coast, and the catch shows an increase of 4,414 barrels over 1891.

Codfishing was not prosecuted with energy, but shows a slight increase over 1891.

Oysters show a decrease of about 8,000 barrels. This fishery was vigorously prosecuted, and owing to the high prices realized proved remunerative to those engaged in it.

The following details show more fully the condition of the different branches of the fisheries in this district.

LOBSTERS.

This valuable crustacean shows a large decrease as compared with the year 1891.

The season opened early, with lobsters fairly plentiful, but high winds and stormy weather in the month of May interfered to a great extent with the successful prosecution of the fishery.

Seventy more factories were in operation than in 1891, and the number of traps was increased from 138,000 in 1891 to 214,000 in 1892. The production per trap was about equal to $13\frac{1}{5}$ one-pound cans in 1892, as against $26\frac{1}{2}$ one-pound cans per trap in 1891. The new regulations under which the factories on a portion of the coast closed 1st July, had a certain effect in curtailing the catch, but as most of those factories close about that date every year the result was scarcely noticeable.

Lobsters, while continuing to be fairly plentiful, are diminishing in size, and I regret having to state that some factories were kept running all through the month of

June on fish under nine inches in length. The condition of this fishery is not satisfactory, as the large increase in the number of traps has to a great extent neutralized the benefits resulting from the shortened season.

HERRING.

There is a considerable increase in the catch of herring. This fish is not cured for export, being chiefly used as bait in the lobster and mackerel fisheries, with a small quantity entering into home consumption as food. Large schools of herring strike the coast when the ice leaves, and are taken in large quantities where the fishermen are prepared to capture them.

Last season they were very abundant on the south side of the island in the vicinity of Georgetown, thus affording the fishermen in that neighbourhood an ample supply of bait. Several fishing vessels from Nova Scotia and the United States bound for the banks cod-fishing, also procured a supply of bait at Georgetown last spring, amounting in the aggregate to several hundreds of barrels, of which no account is given in the returns. As herring strike this place early in the season, and the harbour is generally open, bankers from the provinces of Canada as well as from the neighbouring States can procure supplies of bait and ice in sufficient quantity and at small cost each spring, thus enabling them to successfully prosecute the cod-fishing.

At the northern part of the island the schools were not so heavy, but a sufficient quantity for bait was secured in the early part of the season. Schools of large fat herring visit the coast in the fall months, but as the men are then engaged in the mackerel fishery, which is supposed to be more lucrative, very little attention is paid to them.

CODFISH.

Cod shows a slight increase over 1891. This fishery is not actively prosecuted by Island fishermen, and but little change takes place from year to year. It is capable, however, of great development, as cod abounds in all the coastal waters of the province.

Large quantities are taken each year in the vicinity of North Point, Prince County, by small vessels and large boats from the county of Gloucester, New Brunswick. Those craft remain on the coast until late in the season, and generally make very successful trips. It is to be regretted that local fishermen pay so little attention to this most valuable fishery.

MACKEREL.

The mackerel fishery shows an increase of 4,414 barrels for the year. The fish entered the gulf early and remained inshore on some parts of the coast until late in the season. The best catches by hook and line fishermen were made in the northern part of Prince county, on the coast extending from Tignish to Egmont Bay. Seining was not extensively carried on, as the fish did not school up, outside the three-mile limit. A noticeable feature of this fishery is the smallness of the catch on the north side of the island, from East Point to Malpeque. This section, known as the "bight of the island" was until recently the most famous mackerel fishing ground within the Gulf of St. Lawrence.

Of late years, however, the fish have almost completely deserted it, and the industry has ceased to pay those engaged in it. Fishermen attribute the falling off to the excessive use of gill-nets and purse-seines in this locality.

Their contention is strengthened by the circumstance that mackerel in almost their usual abundance are found in the vicinity of North Cape, in Prince County, where owing to various reasons net fishing had not been prosecuted to the same extent as on the part of coast referred to. For many years quite a number of small vessels from Nova Scotia were engaged in fishing for codfish on the small banks in the coastal waters of this province. Those vessels made headquarters at St. Peter's, Tracadie, Rustico and other small harbours from East Point to Malpeque. In order to successfully prosecute the cod-fishery each vessel was provided with a large fleet of mackerel nets which were set inshore for the purpose of obtaining bait.

These nets were left in the water day and night, and when supplemented by those of the local fishermen, formed a complete barrier of twine along the coast, thus preventing the mackerel reaching their inshore feeding grounds.

This, doubtless, had the effect of driving the fish from their old haunts, and compelling them to seek other waters where nets did not bar them from the shore, and where they could obtain their favourite food. The regulations respecting the use of purse-seines and gill-nets are favourably received by all interested, and will no doubt prove of great benefit to the fishery.

OYSTERS.

Oysters show a decrease of about 8,000 barrels. Owing to windy weather in September, the catch was not so large the first part of the season as in 1891. This had the effect, however, of raising prices later in the year, and the men engaged in the industry were well satisfied with the result of the s ason's operations. Richmond Bay is the best oyster ground in the province, and although continuously and incessantly raked, still produces large quantities of this excellent bivalve. The bottom of this bay appears to be covered with oysters, and the men are each year discovering large and productive beds, which they assert have never before been worked upon.

In this way new ground is being opened up, and the danger of exhaustion by overfishing is not so great as in the smaller bays and rivers. The number of boats and men employed is, however, increasing from year to year, while the output remains about the same.

This would indicate that the supply is kept down to a very low point, and unless nature is assisted in some way may ultimately fail.

The small shallow streams have certainly suffered from over fishing, and in many of them the industry has ceased to be remunerative. The mud diggers have been largely used in the vicinity of living beds, and have without doubt caused great injury to the growing oysters. Another practice that should be prevented is the landing of young oysters by the fishermen during the season. These immature oysters being too small for export, are rejected by the buyers and thrown out to rot.

Hundreds of barrels are wasted and destroyed in this way each season, which, if returned to the beds, would mean thousands of barrels of the best oysters another year.

Stringent regulations prohibiting the use of mud-digging machines within a certain well-defined distance of a living oyster bed, and compelling fishermen to return all small oysters to the water, should be adopted by the department with as little delay as possible.

SALMON.

Clean salmon do not frequent the streams of this district, and consequently are not fished for to any extent. The small quantity appearing in the returns being taken by fishermen with nets on the outside coast, near St. Peter's Bay, in King's county.

During the spawning season they ascend some of the rivers in considerable numbers, especially the Dunk, Winter, West and Morell Rivers, in all of which they were reported as being very plentiful last fall.

TROUT.

A decrease of about 5,000 lbs. for the year is shown in trout. No record is kept of the catch of this fish, and it is extremely difficult to obtain an accurate return. None are exported, and as the catch is altogether made by sportsmen, who keep no account of the quantity caught, the returns are liable to fluctuate, while the take may be about the same each year.

HAKE.

This fishery shows an increase of 15,031 cwts., as compared with 1892. The catch was chiefly made on the south side of King's county, where this fishery was actively prosecuted. With large and suitable boats, this fishery might be carried on very extensively in the coastal waters of the province, as an abundance of hake is to be found at almost all points around the shore.

MINOR FISHERIES.

Halibut, haddock, eels, smelts, &c., show no great change from former years. The halibut and haddock fisheries are not prosecuted as separate industries, the quantities appearing in the returns being taken in connection with the cod and hake fisheries.

Eels and smelts are exported to the United States markets fresh, and the successful prosecution of the fisheries depends largely on the state of the markets, and the kind of weather prevailing.

The winter of 1892 being unusually mild, was not suitable for the export of fresh fish, and consequently the catch shows a considerable falling off. With suitable conditions prevailing, however, the industry is capable of great expansion, as both eels and smelts are plentiful.

GENERALLY.

The season just closed has been a fairly prosperous one, and only for the great falling off in the catch of lobsters, would be the most successful for many years. All branches of the fisheries have yielded fair returns, and the hardy and active fisherman has reaped an average harvest as a reward for his toil and labour.

The efforts of the department to protect our valuable sea-coast and inland fisheries are fully appreciated by all interested, and it is hoped will result in perpetuating this important industry.

I have the honour to be, sir,
Your obedient servant,
EDWARD HACKETT,
Inspector of Fisheries.

RETURNS showing Number, Tonnage, Value of Vessels and Boats, Number of Men, Women and Boys, Number of Seines, Nets, Lobster Traps and Lobster Factories, Fathoms of Nets, Manilla and other Fishing Material in use in the Province of **Prince Edward Island,** Season 1892.

AS PER GUARDIANS' RETURNS.	VESSELS.				BOATS.			NETS.		SEINES.		WEIRS.		LOBSTER PLANT.										VALUE.
														TRAPS.		MANILLA.		FACTORIES.		LABOUR.				
	No.	Tons.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.	No.	Value.	No.	Value.	Fathoms.	Value.	No.	Value.	Men.	Women.	Boys.		
Districts—Prince County.			$			$			$		$		$		$		$		$					$ cts.
Narrows *viâ* North Cape to Cape Gage. ...	7	281	6100	59	212	8480	640	11815	5900	7	2100	1	750	30820	10987	221904	9320	28	15150	400	142	85	58787	00
Cape Gage to West Point.....	4	141	2530	31	65	2730	226	3700	1290	4	1200	...	...	18480	6468	133200	5594	19	25300	198	96	74	45112	00
West Point to Higgins' Wharf	...	...	...	...	51	2040	102	1020	306	...	...	...	...	7300	2555	52560	2207	4	10720	80	41	12	17828	00
Higgins' Wharf to Lot 17 line.....	1	20	300	3	80	3200	168	4182	2090	1	300	...	...	19750	6912	142200	5972	24	33500	249	172	23	54274	00
Lot 17 and Bedeque Bay	2	140	2000	14	20	600	60	2000	1000	2	600	...	...	3600	1260	25920	1080	3	9000	34	11	11	15540	00
Indian Head to Carleton Point	...	...	...	...	31	1616	66	1075	260	...	...	...	...	6900	2415	49680	2070	9	11100	66	20	20	17461	00
Carleton Point to Queen's County line....	1	29	800	3	10	400	20	1000	200	1	300	...	...	9600	3360	69120	2880	12	13000	136	45	18	20940	00
Narrows to Oyster Point.....	...	...	...	...	14	915	38	1061	374	...	...	...	...	3775	1321	27180	1132	6	4700	43	15	10	8442	00
Richmond Bay and Malpeque.....	...	...	...	...	350	8750	700	...	...	...	...	...	...	2047	716	14760	650	5	4350	39	7	10	14466	00
Mill and Lot 10 Rivers.....	1	11	300	3	5	300	15	1500	480	...	...	...	...	.....	.....	.....	.....	...	.....	...	...	...	1080	00
Grand River.....	...	...	...	...	1	350	5	700	250	...	...	...	...	...	...	.....	.....	...	.....	...	...	...	600	00
Indian and other Rivers.	1	18	600	4	14	700	54	...	.....	1	300	...	...	.....	.....	.....	.....	...	.....	...	...	...	1600	00
	17	640	12630	117	853	30081	2094	28052	12150	16	4800	1	750	102272	35994	736524	30905	110	126820	1245	549	263	254130	00
Districts—Queen's County.																								
Prince County Line to Black Point.....	...	..	.....	...	8	300	16	550	200	...	...	...	...	4550	1592	32760	1365	5	7200	22	12	9	10657	00
Lot 65 and St. Peter's Island.....	...	...	.....	...	92	4050	250	690	160	...	...	...	...	28725	10053	206820	8617	16	24150	272	98	19	47030	00
Battery Point to Vernon River.....	...	....	..	...	7	105	14	160	36	...	...	...	...	2110	738	15120	630	6	2420	40	9	7	3929	00
Vernon River to King's County line..	...	....	....	...	95	3000	220	4000	750	...	...	...	...	14390	5037	103680	4320	20	11350	179	74	18	24457	00
Charlottetown and rivers..	...	...	.....	...	5	75	10	.....	.....	...	...	...	...	.....	.....	.....	.....	...	.....	...	...	...	75	00
West River and tributaries	...	...	....	...	30	600	49	200	150	...	...	...	...	2300	805	16560	690	3	3120	32	18	6	5365	00
New London District.....	2	52	1000	13	23	1150	60	3150	1570	3	900	...	...	2400	840	17280	720	2	7500	38	12	7	13680	00
North Rustico "	3	52	1560	14	45	3600	200	4000	1200	3	900	...	...	4000	1400	28800	1200	2	5500	50	35	11	15360	00
Grand Tracadie "	...	...	.....	...	55	1375	140	5300	2655	...	...	...	...	4000	1400	28800	1200	4	5975	79	32	...	12605	00
New Glasgow "	...	....	.....	...	12	300	34	150	65	...	...	...	...	.....	.....	.....	.....	...	.....	...	...	...	365	00
Wheatly River..	...	....	.....	...	4	430	16	80	24	...	...	...	...	.....	.....	.....	.....	...	.....	...	...	...	454	00
	5	104	2560	27	376	14985	1009	18280	6810	6	1800	...	...	62475	21865	449820	18742	58	67215	712	290	77	133977	00

Districts—King's County.																							
Queen's County Line to Terras Point ...	10	300	6000	60	90	2700	270	4000	2400	...	...	...	...	20000	7000	144000	6000	18	28350	208	97	85	52450 00
Terras Point to Maitland Point.....	8	285	5600	53	60	2500	250	2500	2000	...	...	...	...	4500	1575	32400	1350	3	6900	39	22	7	19925 00
Maitland Point to Rollo Point.	..	....	.....	...	150	4500	300	18000	3600	...	...	...	...	7700	2695	55440	2210	6	17500	138	50	17	30505 00
Rollo Point to Diligent Pond....	..	....	....	..	125	3000	250	10000	3000	...	...	...	...	4400	1540	32300	1345	4	6000	90	30	10	14885 00
Diligent Pond to Big Pond..... ..	..	...	....	...	80	1600	240	3000	750	...	...	...	...	4400	1540	31680	1320	4	6000	86	34	17	11210 00
Big Pond to Oer's Point.	..	....	.....	...	60	1500	180	3600	600	...	...	...	...	3950	1382	28440	1185	4	4000	54	20	20	8667 00
Oer's Point to Queen's County line.....	..	....	.. ..	...	65	2540	170	7480	3740	...	...	...	...	4150	1452	29880	1245	5	6000	51	34	17	14977 00
Moville and other Rivers.....	..	....	.....	...	....	.....	....	.....	.....	...	....	...	....	.....	.....	.. . .	.....	...	... .	...	....	...	.....
	18	585	11600	113	630	18340	1660	48580	16090	..	....	...	....	49100	17184	354140	14655	44	74750	666	287	173	152619 00

RECAPITULATION.

Totals—Prince County..	17	640	12630	117	853	30081	2094	28052	12150	16	4800	1	750	102272	35994	736524	30905	110	126820	1245	549	263	254130 00
" Queen's "	5	104	2560	27	576	14985	1009	18280	6810	6	1800	...	...	62475	21865	449820	18742	58	67215	712	290	77	133977 00
" King's "	18	585	11600	113	630	18340	1660	48580	16090	...	....	...	....	49100	17184	354140	14655	44	74750	666	287	173	152619 00
	40	1329	26790	257	1859	63406	4763	94912	35050	22	6600	1	750	213847	75043	1540484	64302	212	268785	1623	1126	513	540726 00

RETURNS showing Kinds and Quantities of Fish caught, and their Values, in the Province of **Prince Edward Island,** Season 1892.

AS PER GUARDIANS' RETURNS.	Salmon, per barrel.	Salmon, fresh.	Mackerel, per barrel.	Mackerel, in cans.	Herring, per barrel.	Alewives, per barrel.	Codfish, per cwt.	Hake and Cod Tongue and Sounds, per lb.	Hake, per cwt.	Haddock, per cwt.	Halibut, per lb.	Trout, per lb.	Smelts, per lb.	Eels, per barrel.	Oysters, per barrel.	Lobsters, in cans.	Fish Oil, per gall.	Fish Guano, per ton.	Fish used as bait.	Value.
Districts—Prince County.																				$ cts.
Narrows, *viâ* North Cape to Cape Gage			7074	1920	6660	55	1750	4206	1134	2400	1500	2900	24000	145	215	520672	3884	500	2400	238046 58
Cape Gage to West Point			5700				90		100			1000	1000	4		226416	100	550	2000	120933 24
West Point to Higgins' Wharf			903		146	12						2400	8500	5	410	105600		65	800	31932 00
Higgins' Wharf to Lot 17 line			450		1955											301056			3400	62345 34
Lot 17 and Bedeque Bay			25									11000	25000	35	500	24000			600	8810 00
Indian Head to Carleton Point					880											80208			3000	19689 12
Carleton Point to Queen's County line			50	2000		10	500		600			2000	8000			120096		200	600	25348 44
Narrows to Oyster Point			74		752		450				100		4000	15	2400	43200			800	21253 00
Richmond Bay and Malpeque			150		100										20900					65250 00
Mill and Lot 10 Rivers			50				70					2000	24000	70	300					4015 00
Grand River			3		500		200						4800	60	3800					15432 00
Indian and other rivers					600		450			250		200	11000	94	2453	44496	300	50	300	21768 44
			14479	3920	11593	77	3510	4206	1834	2650	1600	21500	110300	428	30978	1465744	4284	1365	13900	634823 16
Districts—Queen's County.																				
Prince County Line to Black Point			50		100		1000					1000	5000	5		34848		60	250	11903 72
Lot 65 and St. Peter's Island															115	238416		210	103	35977 74
Battery Point to and at Vernon River			2		4							500	100		500	35328			148	6768 92
Vernon River, *viâ* Point Prince to King's Co.			20	3600	50		50	200	75	1000		700	500	4	4	158640	120	300	170	30646 60
Charlottetown and rivers			10		10							1000	4000	5	1175					4060 00
West River and tributaries			5		10	60						150		2		62400		40	200	9856 00
New London District			450		500		500	250	25		100				150	45936	200		400	18571 04
North Rustico "			1825		500		1350		1960	400			1000	30		53328	189	100	2500	53796 52
Grand Tracadie "			380		297	50	1175					500	5000	200	15	75888	586		1000	26870 32
New Glasgow "			128				20					500							125	2119 50
Wheatly River "			22		8		7					300					40		18	448 50
			2892	3600	1479	110	4102	450	2060	1400	100	4650	15600	246	1959	704784	1129	710	4914	201018 86

Districts—King's County.

Queen's County Line to Terras Point	....	....	150	....	1000	....	8000	2000	12000	4500	....	1000	4000	50	....	224112	1500	....	1500	130375	68
Terras Point to Maitland Point	....	....	600	....	5000	....	200	....	150	....	....	.....	.....	...	.....	60804	100	...	1000	42302	56
Maitland Point to Rollo Point	...	....	1500	....	200	....	600	....	2400	....	....	.....	60006	150	.....	112992	2500	50	2800	57818	88
Rollo Point to Dilligent Pond	....	....	250	..	200	..	1200	....	5000	....	....	.....	.....	.....	.....	48960	600	....	1000	33394	40
Dilligent Pond to Big Pond	....	....	960	....	500	50	480	....	....	....	....	6000	.....	.....	.....	80976	400	....	700	31221	64
Big Pond to Oer's Point	10	....	600	....	300	..	60	....	.	50	....	500	1000	...	.....	54240	40	....	1000	19504	60
Oer's Point to Queen's County Line	....	9980	470	....	630	300	1250	....	102	21	600	....	6000	20	. ...	66960	850	...	850	29316	90
Moville and other rivers	....	....	....	....	....	....	....	....	....	....	....	800	....	....	....	.....	....	....	.....	80	00
	10	9980	4530	....	7830	350	11790	2000	19652	4571	600	8300	71000	220	.....	649044	5990	50	8850	344014	66

RECAPITULATION.

Totals—Prince County	....	....	14479	3920	11593	77	3510	4206	1884	2650	1600	21500	110300	428	30978	1465744	4284	1365	13900	634823	16
" Queen's "	...	....	2892	3600	1479	110	4102	450	2060	1400	100	4650	15600	246	1959	704784	1129	710	4914	201018	86
" King's "	..	10	4530	....	7830	350	11790	2000	19652	4571	600	8300	71000	220	....	649044	5990	50	8850	344014	66
		10	9980	21901	7520	20902	537	19402	6656	23546	8621	2300	34450	196900	894	32937	2819572	11403	2125	27664	1179856	68

Marine and Fisheries.

RECAPITULATION

YIELD and Value of the different Fisheries in the Province of **Prince Edward Island** during the year 1892.

Kinds of Fish.	Quantity.	Prices.	Value.	Total Value.
		$ cts.	$ cts.	$ cts.
Salmon, salted ..... Brls.	10	10 00	100 00	
" Fresh ..... Lbs.	9,980	0 10	998 00	
				1,098 00
Mackerel, salted ..... Brls.	21,901	14 00	306,614 00	
" in cans ..... Lbs.	7,520	0 12	902 40	
				307,516 40
Herring ..... Brls.	20,902	4 50	.....	94,059 00
Alewives ..... Brls.	537	4 50	.....	2,416 50
Cod ..... Cwt.	19,402	4 50	87,309 00	
Cod and hake tongue, &c ..... Lbs.	6,656	0 50	3,328 00	
				90,637 00
Hake ..... Cwt.	23,546	3 00	.....	70,638 00
Haddock ..... Cwt.	8,621	3 50	.....	30,173 50
Halibut ..... Lbs.	2,300	0 10	.....	230 00
Trout ..... Lbs.	34,450	0 10	.....	3,445 00
Smelts ..... Lbs.	196,900	0 05	.....	9,845 00
Eels ..... Brls.	894	10 00	.....	8,940 00
Oysters ..... Brls.	32,937	3 00	.....	98,811 00
Lobsters ..... Cans.	2,819,572	0 14	.....	394,740 08
Fish oil ..... Galls.	11,403	0 40	.....	4,561 20
Fish as bait ..... Brls.	27,664	1 50	.....	41,496 00
" guano ..... Tons.	2,125	10 00	.....	21,250 00
Total value for 1892	.....	.....	.....	1,179,856 68
" " 1891	.....	.....	.....	1,238,733 81
Decrease	.....	.....	.....	58,877 13

RECAPITULATION

SHOWING the Number and Value of Vessels, Boats, Nets, &c., engaged in the Fisheries of **Prince Edward Island** for 1892.

Articles.	Value.	Total.
	$ cts.	$ cts.
40 vessels, 1,329 tons	26,790 00	
1,859 boats	63,406 00	
94,912 fathoms of nets	35,050 00	
22 seines	6,600 00	
1 weir	750 00	
		132,596 00
212 lobster canneries	268,785 00	
213,847 lobster traps	75,043 00	
1,540,484 fathoms of rope	64,302 00	
		408,130 00
Total	.....	540,726 00

APPENDIX D.

QUEBEC.

REPORT OF THE FISHERY OFFICER IN CHARGE OF THE GOVERNMENT STEAMER "LA CANADIENNE," ENGAGED IN THE PROTECTION OF THE GULF OF ST. LAWRENCE FISHERIES FOR THE YEAR 1892.

OTTAWA, 31st December, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to present the report of the fisheries of the Gulf Division, P.Q., for the year now closed, together with synopses of the reports of the local overseers, and the usual tables of statistics showing the catch and values of the fisheries for the above named division.

It will be seen by these tables that there is an increase in value, as compared with the returns for 1891, of $309,847. This is made up mainly by the increase in the catch of cod, lobsters and mackerel. The season was not a rough one, and the fall being remarkably open, the cod and herring fisheries were carried on until well into the month of December. Fishing began early on the south shore, and promised well, but it slacked away during the early summer, and never thoroughly came to again, so that on the south coast in Gaspé and Bonaventure the fishery was really below the average. On the north shore and Labrador, however, fishing began early, and continued good throughout the season until late in the fall—so that by the abundance of the north shore fishery, we are enabled to report for the whole Gulf division one of the best yields of recent years.

SALMON.

The total yield of salmon amounts to 681,620 lbs., as compared with 638,077 lbs. in 1891. The fishing on the south shore was again poor, and owing to the small snowfall during the winter of 1891 and 1892, and the almost total absence of the usual spring freshets in May, the water in the rivers was low, and clear in June, so that it was only after heavy rains in June and July, that the fish ran in. For this reason both the net fishing and the early fly fishing were poor. On the north shore, however, I have again to report an abundant catch, the sea-coast nets in the Moisie and Godbout subdivisions having made a most successful fishery. No new net licenses for salmon have been issued for several years on the south coast, and during this time many old stations have been cancelled—this coupled with the fact that on several of the rivers the estuary nets have been bought out by the fly fishermen—that in many instances the length of bar net has been reduced, while the Sunday close time is everywhere strictly observed, would lead us to expect an improvement in the condition of the salmon rivers in the counties of Gaspé and Bonaventure. The Local Government of Quebec through the Hon. the Commissioner of Crown Lands, has also consented to offer a bounty for the destruction of certain of the predaceous birds, such as sheldrakes and kingfishers. As to all appearances this may be the last report which I will be in a position to offer on the fisheries of the Gulf division, I would like to call your attention particularly to the many complaints which are being urged against the salmon watchers. As far as the rivers with which I have anything to do are concerned, all these complaints would cease if an arrangement could be entered into by which the supply of parent fish for the purposes of artificial hatching could be procured from those who now fish licensed nets in

the neighbourhood of the hatcheries, that is to say, if sufficient fish for the purpose of the hatcheries could be saved out of the ordinary market catch, leaving all the fish that now escape the licensed nets to reach the rivers. It ought to be possible without much extra trouble, or any greatly increased cost, to have this done, and were it done, these numerous complaints against the hatcheries would end.

COD.

Cod fishing began early, about the middle of May. Our returns show a yield of 244,881 cwts., being the largest fishing for many years back, in fact one of the best ever made. During the last of May and beginning of June, fish were very abundant on the banks of Bonaventure Island, in the county of Gaspé. Many vessels from the United States and Nova Scotia made good fares about 15 miles south-east from Percé on the Green and Orphan banks. By the end of June, however, the fish disappeared and the usual summer fishery made by the south shore boats was poor—in fact, the cod fishery on the south shore continued poor until the end of October, or about the time when this fishery usually closes, when the fish came in again abundantly, and from Newport up the Bay Chaleurs as far as Carleton, fish were taken plentifully as long as the boats could get out.

The late fall fishing for cod, smelt and herring between Gaspé and the upper part of the Bay des Chaleurs is never fully developed, owing to the want of any means of exporting the fish. Had the people along this coast any railway communication, or were the regular mail boat which runs along this coast, and is heavily subsidized by your Government, compelled to continue on the route as long as navigation remained open—and it would seem easy to make this one of the terms of the subsidy—then the fall fishing along the above mentioned coast would be greatly encouraged by affording an outlet for the fish, which at this season could be shipped to market in a slightly salted or frozen state. Communication between Pictou and the Magdalen Islands is kept open by a subsidized steamer until the end of December, and there is no reason whatever why a similarly subsidized steamer should not continue on the route between Gaspé and Dalhousie until quite as late a date. If this were done, it would give a great impetus to the fall fishing, and mean many thousands of dollars in the pockets of the fishermen along the coasts of Gaspé and Bonaventure.

On the north coast and Labrador the cod fishery was in many places an almost phenomenal one. The fish struck early, and remained abundant well in shore until a much later date than usual in the fall. As showing in some degree the enormous bulk in which the cod sometimes strike on this coast, I would mention the following instance: On Wednesday evening, the 29th of June last, I anchored in "La Canadienne" in five fathoms of water off Sheldrake Cove. This cove is about a mile long, and from the anchorage the water shoals gradually to the beach; the bottom is smooth, of fine sand and gravel. I had no sooner shoved clear of the ship in my gig, and the crew had only given a few strokes of the oars, when we ran the boat "aground" in a mass of codfish. This school or body of fish, filled the cove. The fish on the surface were being forced or lifted out of the water by the mass below. This condition of affairs existed all the way to the shore, where the inshore fish were being driven upon the beach by the weight of those behind. It was with difficulty that we forced our boat through this mass of fish to the shore. As far as we could sound with a 17-foot oar the fish were solid to the bottom. A similar condition of affairs was reported in many other smaller coves in the neighbourhood.

It is only on the north coast, in the neighbourhood of Sheldrake, Thunder River and Natashquan, and on the Labrador that the cod are known to school inshore in this way. When this happens the fish are schooling after the capelin, and they will not take the hook and line. Out of such a volume of fish as this condition of affairs would represent, all that is taken in one season by our fishermen would be a bagatelle, and it is when this schooling inshore exists that seines and trap-nets are of use. The fish are there in illimitable numbers, they won't take the hook, and it is only with the "twine" that they can be taken. Fish in a school are all of a uniform size. The simple trap-net affords at these times the most reasonable way of taking the fish. When the fish

remain off shore the trap-net, of course, is useless. It is only at certain spots that the fish school inshore or that trap-nets can be set.

As the permission to take bait had not been accorded by the Newfoundland Government, when the Nova Scotia fleet were fitted out in the spring, we had a large number of those who usually go bank fishing on the Labrador; those who were fitted with traps, and who secured good berths did well, those who had no traps did poorly, for though the fish were almost everywhere in great abundance, yet they did not, as I have said before, take the hook. The fleet from Newfoundland was not as large as usual, as many vessels were blocked by the ice outside the Straits of Belle Isle in June, and did not get west along the coast in time.

HERRING.

The catch of herring, though greater than that made in 1891, was yet considerably below the average. The spring fishery at the Magdalen Islands began well, but the fish did not remain long. The Bay Chaleurs fishery was good. I was assured this fall, when taking evidence under oath regarding certain bounty claims, that spring herring were never more abundant in the upper part of the Bay Chaleurs than they were last spring. Owing to the duty on this herring in the United States, there is now no market for it abroad; it is taken almost entirely for manure, it being claimed that it is the best available manure for potatoes, of which large crops are raised in Bonaventure county—some farmers claiming that as a manure for potatoes spring herring is worth $2 a barrel. The summer herring fishery was poor, and in the fall the fleet of vessels which usually prosecute this fishery on the Labrador did nothing—the failure being complete.

MACKEREL.

The catch of mackerel was slightly above that made in 1891, being for 1892, 4,817 barrels, as against 4,518 in 1891. It is, however, only at the Magdalen Islands that any distinct mackerel fishery is carried on. The opinion of other fishermen in Gaspé Bay and in the Bay Chaleurs is that the mackerel are returning, and that we had this year a much better show of mackerel in these bays than we have had for some years; they judge of this by the increased quantity of mackerel taken in the herring nets which are put out for bait in August and September. The few mackerel taken in Gaspé Bay were large and fat. I secured one specimen at Gaspé which measured 23½ inches in length and weighed 3½ lbs. A few small schools of mackerel were reported seen off Ste. Anne's and Monts Louis, but none whatever were seen at Seven Islands Bay and the Cacoèes, where they once, about fifteen years ago, were so abundant.

LOBSTERS.

I last year reported an improvement in the lobster fishery, and I have again this season to report an increase in the total yield, the exact figures being for 1891, 960,995 lbs., for 1892, 1,127,934 lbs., an increase of 166,939 lbs. I would not like to say that this increase was really due to any improvement in the fishery, as the total number of traps fished is constantly being increased, but I would point to the fact that for the last four years the fishery has not gone back, that the lobsters are not decreasing in size, in fact, in some places, as at Percé and Port Daniel Bay, there is a perceptible increase in the size, as an evidence that the shortened close season and the enforcement of the size limit has at least told in staying the downward tendency of this fishery. If it were now only possible to stop the construction of new canneries, and to limit the number of traps fished in any locality, I believe that under the present regulations, well carried out, we might justly claim that a point has been reached in the Gulf division where, in connection with the lobster fishery, a stay has been put to the steady decrease in the fishery which was annually reported up to the last four years.

SEALS.

The seal fishery with vessels in the spring was again poor, most of the vessels having altogether missed the seals. We had about 40 vessels, all small schooners of from

20 to 45 tons, and manned by about 500 men, prosecuting the spring seal fishery in March and April. Seals were abundant, but for the last ten years these vessels have failed to make a successful catch, while each year the steamers from Newfoundland, which prosecute this fishing in the Gulf, have invariably done well. The sedentary fishery on the Labrador was good. Complaints being made by fishermen at Long Point, Labrador, that the sedentary seal fisheries at that point were hampered and injured by men coming in from Newfoundland with shoal nets, which they fished in the run of the seals towards the sedentary fisheries, a special officer was named at Long Point to protect these sedentary fisheries which are fished in April and May, before "La Canadienne" can get down to that part of the coast.

BAIT.

Spring herring for bait was abundant at the Magdalen Islands and on the south coast. Caplin was scarce and is now hardly ever used as bait on the south shore, though on the north shore, where it is the principal, and in many places the only bait, it is as abundant as ever. Squid struck early and was plentiful. Frozen herring, as used at Newport by Messrs. Robin, Collas & Co., became more popular with the fishermen, who at first were prejudiced against it. Launce and clams, when these can be had, are always used by the fishermen when other more easily obtained baits fail. Many vessels from the outer banks having failed to find bait on the Atlantic coast, came in to Port Daniel, Percé and Gaspé, where they all managed to obtain bait.

SYNOPSES OF FISHERY OVERSEERS' REPORTS.

BONAVENTURE COUNTY.

RESTIGOUCHE SUBDIVISION.

Overseer J. A. Verge reports a slight improvement in the salmon net fishery, with one station less. Salmon reached the fluvial portion of the river early. The month of June was very dry and the river low. The anglers on the Restigouche had a fairly good season. The guardians report a large stock of breeding fish all over the spawning grounds.

The smelt fishery shows a decided increase, the catch being 30,300 lbs. as against 8,400 lbs. in 1891. This increase is due to the fact that the fishermen have found better grounds for setting their bag-nets.

Herring were also quite abundant as far up the estuary of the Restigouche as Pointe La Garde. This was something altogether unusual.

CARLETON SUBDIVISION.

Overseer P. Cyr reports the salmon net fishery a failure. The fishermen attributed this to the prevalence of north-west wind during the season which kept the fish off the Quebec shore. Spring herring were very abundant, but mackerel and fall herring were scarce. The cod fishing was good during the fall.

Only one small lobster factory was operated in the subdivision. Lobsters were late in coming in, but were abundant later in the season.

BONAVENTURE SUBDIVISION.

Overseer J. Smith reports salmon fishing on the sea-coast poor. The net fishermen in the Cascapedia River did well up to the 20th June, after which date they were paid to take up their nets by the anglers. Lobster fishing began on the 1st of May, and the catch was an average one. Spring herring were abundant all along the coast. Caplin were not as plenty as last year. The summer catch of cod was good. In the early fall the fishing was slack, but after the 10th October it improved again, and there being plenty of small herring for bait the boats did remarkably well. Towards the end of October, boats at Paspebiac were taking from 12 to 13 cwt. per day.

PORT DANIEL SUBDIVISION.

Overseer John Phelan reports cod-fishing began the 20th May, and the yield, though less than last year, may be reckoned a fair average catch. Bait was scarce during mid-summer, but in the fall small herring were abundant, and the inshore fishing was good: boats were taking from 4 to 10 drafts a day at the end of October. There were no very heavy storms, though high winds were frequent by which the fishing was greatly interrupted. Salmon fishing began on the 25th May and ended on the 25th July, though many nets were taken up at the end of June. The yield is about 800 lbs. greater than last year.

Lobster fishing commenced the 30th April and closed the 15th July. The catch shows an increase over that of 1891 of 36,055 lbs. This is, however, due rather to an increased number of traps having been fished, than to a natural increase in the number of lobsters. These were abundant and of good size. Packers paid the fishermen this season 50 cents per 100 lbs. and furnished the traps; hitherto, at this figure, the fishermen had to furnish their own traps. Spring herring struck on the 20th April, and continued plentiful through May. At Port Daniel 800 barrels were sold for bait to fishing schooners from the banks at from 50 to 60 cents per barrel. Mackerel showed out in deep water, but they never came inshore. Caplin were plenty at Paspebiac between the 1st and 15th June, but scarce elsewhere. The fishery regulations were well observed, only one individual having been fined for having berried lobsters in his possession.

GASPÉ COUNTY.

GRAND RIVER SUBDIVISION.

Overseer Henry Jones reports cod-fishing began early, and was good during the beginning of the season; it, however, fell off during the summer and early fall, showing up well again late in the season, just as the fishermen were about giving up. Salmon net fishing was good in the neighbourhood of Pabos; at Grand River all the nets were bought off by the owner of the angling rights. Lobster fishing was about an average. In the upper part of the division lobsters were scarce, and the canners shut down before the close of the season, while at Percé the fishing was good, and lobsters were as abundant as ever they were. The season was rough, and a good deal of damage was done to boats. At Percé, during a gale in August, some fifteen boats of the fleet at that station were wrecked and lost.

GASPÉ SUBDIVISION.

Overseer George Annett reports the salmon fishery shows an increase of 5,462 lbs. as compared with that of last year, and had it not been for rough weather at the commencement of the season the catch would have been much heavier. The cod fishery is a trifle below that of last year. This decrease can also be attributed to the rough weather of the early season, when fish were most abundant. The herring catch is about the same as in 1891. Mackerel show a slight increase; small mackerel were more abundant than they have been for many years. The prospect of the return of the mackerel is hailed with delight by the fishermen. There is a decrease of 14,020 lbs. in the return of the lobster fishery. This decrease was due to the very rough weather during the height of the fishing, which caused such a serious loss of traps as to seriously cripple the fishery. The smelt fishery was a fair one, though owing to the early stoppage of communication, this fishery had to be abandoned when at its best.

MAGDALEN RIVER SUBDIVISION.

Overseer Jos. Lemieux reports salmon was scarce, and very few nets are fished for them in his subdivision. The cod fishery began well in June, and bait in the shape of herring and squid was always to be had, but during July and August the advent of white porpoises in great numbers at once put an end to the cod fishing, as the cod-fish are chased off the grounds by the porpoises. During the fall cod were abundant, but the weather was often rough, and on the whole the catch is not an average one.

STE. ANNE DES MONTS.

Overseer J. I. Letourneau reports a small cod fishery, and that this was due entirely to the presence of white porpoises during the summer season. In the fall, when the porpoises had retired up the river, the cod returned and the fishing was good. No salmon nets were fished in the neighbourhood of Cape Chatte or St. Anne River, and only two small nets were fished down at Martin River. The fly fishing in the Ste. Anne River was poor, only 46 fish being taken. The bulk of the fish only ran into the river in August after the fishing season was over. Herring was abundant, and fully double the usual quantity was taken. A few caplin were taken in the eastern part of the subdivision, but none in the western.

COUNTY OF SAGUENAY.

GODBOUT SUBDIVISION.

Overseer N. A. Comeau reports, owing to a very early spring and fine weather, salmon appeared on the coast on the 26th May. Fish were unusually abundant, the catch being double that of last year. The fish taken both with the net and fly were larger than the average. Owing to the fine dry weather, the rivers were low and clear, which led to the fly fishing being below the average. Mackerel appeared at Godbout on the 25th July, and were of large size. In August several large schools were observed, but they did not come inshore. Later on a few mackerel were seined in the bay. Herring were fairly abundant throughout the season. Cod struck in early in great quantities, boats at English Point taking from 10 to 12 cwt. a day. This lasted for a week, when the white porpoises appeared on the scene and the cod were driven away to such an extent that enough could not be caught for local consumption. About the 15th August the porpoises left the coast, and the cod returned, and at the present date (26th October) they are in abundance. Bait was plentiful. Halibut were plenty. No special fishery with trawls is made for this fish; those that were taken were caught by fishermen fishing for cod. The seal hunt made at Manicouagan and Pointe des Monts was below the average.

MOISIE SUBDIVISION.

Overseer T. Migneault reports salmon net fishing began on the 18th May and closed on the 23rd July; the catch yielded 34,032 lbs. more than last season. The fly fishing in Moisie River was also good, six rods having taken 305 fish weighing 6,100 lbs. The cod fishing was also good, having yielded 3,179 cwt. more than in 1891, and this in spite of the fact that heavy weather in August and September kept the fishermen ashore more than half their time. No mackerel were seen in the division, and no mackerel schooners visited the coast. The herring catch, as well as that of the halibut, was below the average. Seventy-three more seals were taken than in 1891.

NATASHQUAN SUBDIVISION.

Overseer Geo. Gaudin reports the spring seal fishery was again poor, four vessels having only taken 209 seals between them. The salmon fishery at Natashquan River was a little better than the few last years; the average weight was also about 2 lbs. more than usual; the first salmon was caught on the 1st June. The anglers on the Natashquan River did well, though no fish were taken before the 24th June; 313 fish, averaging 12 lbs., were taken with the fly. The outside stations did poorly, owing to the prevalent strong winds having driven both the fish and the bait off shore. Cod and caplin came in on the 2nd June and continued plentiful till the 12th July, when they disappeared; during this time the fishermen all did well—one boat's crew, from Natashquan Harbour, took 440 cwt. green within these dates. Some boats also did well in deep water on the outer banks during the latter part of the season. There was a great increase in the cod fishery over last season, which was not by any means a bad one. No herring were taken at Natashquan, two schooners went down the coast about a hundred miles, and returned with only 10 barrels each. A lobster cannery was opened at Watsheeshoo, but only 43 cases were packed; the packers complain of the short season, and with reason, as on this coast they cannot begin operations as early as on the south shore.

MINGAN SUBDIVISION.

Overseer DuBerger reports salmon fishing began early; the returns show a falling off as compared with the previous year; for the sea-coast nets this was due to the fact that the weather, and particularly the wind, was not favourable, while in the estuary of the St. John's River, where the principal fishing is made, a heavy freshet occurred during the height of the fishing, which prevented the nets from being properly fished for ten days. The cod fishery was an exceedingly good one all over the coast, the fishing began early, was constant during the season and continued as long as it was possible for boats to get out. During the month of June cod frequently schooled inshore, between Sheldrake and Thunder River, in enormous quantities. The catch of herring was considerably greater than in 1891. The spring seal fishery was again a failure.

ST. AUGUSTIN SUBDIVISION.

Overseer J. LeGouvie reports salmon fishing below the average of recent years. The cod fishery was one of the best made for many years; the shore fishermen all did well, especially those that were rigged with trap-nets. The Nova Scotian fishing fleet was the largest of recent years, as, owing to the bait trouble, many vessels that usually went to banks were fitted for the Labrador fishery instead. The number of Newfoundland vessels was about as usual; most of these vessels did not come west of St. Augustin Bay. The sedentary seal fishery was about the same as last year, slightly below the average.

BONNE ÉSPERANCE SUBDIVISION.

Overseer W. H. Whitney reports fishing began early. The salmon fishery was below the average, and this has generally been the case when cod are abundant. The cod fishery was one of the best for many years, the fish struck in early in June, and fishing continued steadily through the season, which here lasts but little more than a month—that is, the regular summer fishery. Cod are, of course, taken right into the fall, in deep water off shore. Fall herring were scarce, a few schools of herring struck early in the season before the cod fishery was over; they were, however, neglected at the time, and passed on; when the cod fishery was over, and fishermen had time to rig up for herring, the schools had gone and they never came back. The spring seal fishery with nets was below an average—the seals either passed outside, or passed before any of the nets were out.

I have the honour to be, sir, your obedient servant,

WM. WAKEHAM.

Fishery Officer.

SYNOPSES OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF QUEBEC (EXCLUSIVE OF THE GULF DIVISION) FOR THE YEAR 1892.

SOUTH SHORE RIVER ST. LAWRENCE, FROM CAPE CHATTE TO POINT LÉVIS.

Overseer Johnny Joncas reports the fishing season to have been prolonged far in December, resulting in a good yield being secured. Herring fishing with gill-nets was quite remunerative, but few were taken in the fascine fisheries. Sardines and caplin only being found in the weirs. It is worthy of note as occurring for the first time that 10,000 lbs. of halibut are returned for this district by the cod fishermen. Salmon seemed more plentiful than last year; one of the best stands at Mechins taking twice the usual quantity compared with the previous seasons. Fly fishing in Matane River was about as good as last year, forty fish being secured. Salmon were not molested in that stream last season, not a single complaint reaching him. Mr. Joncas states that he can only report an amelioration and not a complete success in the observance of the saw-dust regulation, although he has fined several parties for allowing saw-dust to escape; mill rubbish is fairly well kept from the streams. The total value of the fisheries of the Matane division foots up to $18,028, being an increase of nearly 50 per cent over that of last year.

Overseer L. S. E. Grondin reports an improvement in the yield of salmon and sardines over that of last year, but a very large falling off in herring, due to the fact that the fishery which captured 10,000 barrels of these fish in 1891 was not in operation when the herring struck in last season. This shortage also explains the decrease in value of the fisheries of over 50 per cent; the total value being given only at $28,500.

Mr. Grondin, who also took temporary charge of the neighbouring division after Mr. H. Martin was suspended, reports a small catch of fish in this district.

Overseer Napoléon Levesque reports a fair fishing season. The decline in salmon is more than made up by the increased yield of herring and sardines. He ascribes the inferior catch of small and coarse fish to the strong winds prevailing during the fishing time. The total value, however, shows an increase of about 20 per cent over that of last year, being computed at $48,100.

Overseer Xavier Pelletier made no report, but his statistics show the catch of eels to have been better than that of 1891, which was considered a good year; over 88,000 lbs. of these fish were taken at Rivière Ouelle alone. At the same place, and at Ste. Anne de la Pocatière, 120 white whales or *marsouins* were captured as against only 20 the previous season. The total value of the fisheries of this division is reckoned at about $18,000.

Overseer Eugène Pelletier states that eels are the staple fish of his district, over 300,000 lbs. having been caught last summer. Salmon also shows a slight improvement. Shad was more plentiful than for years past; more of these fish were taken in Beaumont alone than in the whole division in 1891. Herring and sardines did not seem to strike in, and were consequently rather scarce. Fishermen who complain of this scarcity little think to ascribe it to their wanton destruction and waste of small fish. Mr. Pelletier says he noticed, on the Quebec market, fish so small that in his opinion parties exposing them should have been prosecuted. This short-sighted destruction of immature fish during a single year in the St. Lawrence would supply this division for 20 or 30 years and more. The close seasons were generally well observed. The total value is given at $32,300, being over 75 per cent in excess of the preceding year. In fact, this officer considers the investment of capital in the fishing industry as remunerative, if not more so, than any other.

NORTH SHORE RIVER ST LAWRENCE, FROM QUEBEC TO BERSIMIS.

QUEBEC AND MONTMORENCY DIVISION.

Overseer L. P. Huot reports a favourable season's operation. With the exception of sturgeon and smelts, which have considerably diminished, all other kinds of fish have yielded remarkably well, especially shad, which has increased from 718 lbs. in 1891, to 16,170 lbs. last season. The take of salmon also exceeded that of the preceding year by nearly 50 per cent, and eels by 33 per cent. No violation of the fishery laws came under this officer's notice. As usual, all the fish caught in this division valued at ($12,450, an increase of 30 per cent) are sold on the Quebec markets.

Overseer Ulysse Bhéreur again reports a further decrease in the general yield of his division. The salmon fishery seems to be steadily declining. Sardines were as numerous as usual. Eels yielded an average catch, but caplin was very scarce, in fact, in some parts of this district none at all could be secured. The total value of these fisheries only amounts to $8,400, a decrease of over 35 per cent as compared with that of 1891, which was considered a small catch.

Overseer L. N. Catellier also returns a serious diminution in all kinds of fish in the Saguenay district. It is the first time that herring and caplin were known to fail. Salmon net fishing was poor. Fishermen ascribe this shortage to the absence of eastern winds during the fishing period. This seems to be corroborated by the large take on the north coast below Bersimis. The anglers on the various tributaries did not seem to fare better than the net fishermen. Two guardians were constantly patrolling during four months between Bersimis and River aux Canards, but reported no violations of the fishery laws. The value of the fisheries of this division only amounts to $16,000—a decline of nearly $11,000 from 1891.

FROM QUEBEC TO UPPER OTTAWA.

SHERBROOKE AND MEGANTIC DIVISIONS.

Overseer P. W. Nagle states that he estimates the catch of fish in the several lakes, ponds and streams of the county of Stanstead to be about the same as that of the pre-

ceding year. It is all used for home consumption. There are no obstructions to the passage of fish now, the fish-ways are all kept in proper order. Mr. Nagle is not aware of existing abuses of any kind in his district. He values the total yield at about $2,800.

Overseer Joel Shurtleff made no report, but returns an average catch of fish, the principal kinds being trout, of which he returns 20,000 lbs.

Overseer A. L. Darche states the yield of fish but slightly differed from that of 1891. The various close seasons were well observed. The four fish-ways in his district are now in good order; one had been carried away by ice and logs at Lake Weedon, but it has been rebuilt since. The only abuse complained of is the saw-dust mill and rubbish nuisance. The total catch of these lakes amounts to 66,000 lbs., principally maskinongé, pickerel, pike, bass and trout.

Overseer J. B. McDonald reports that owing to heavy rains angling was not up to the average. He reports that many fish were killed by lumbering companies in blasting operations. He seized and destroyed gill-nets found illegally set.

MAGOG AND BROME DIVISION.

Overseer N. A. Beach returns about the same quantity of fish as last year, but makes no report.

Overseer H. Greene reports that lake trout and bass were more plentiful than during the year previous. Pickerel seemed scarcer than usual in the lake; for this Mr. Greene is unable to account. The close seasons were well observed. This officer is of opinion that the close season for lunge should commence on 1st October, instead of the 15th as at present. Last season lunge were on the shoals to spawn by the 5th October. He estimates the total value of fish at $3,760; one man alone taking over 2,000 lbs.

MISSISQUOI BAY DIVISION.

Overseer P. E. Luke reports that as doré came into Missisquoi Bay a month later than usual, fewer were taken. Few fishermen took part in the shad fishing last fall. No abuses of any kind came to his knowledge. The close seasons were well observed. The fish-way in Mr. Bissett's dam was carried away by the ice last spring, and owing to the high water it was impossible to do any more than temporary repairs. Mrs. Desrivières' dam is in the same way. The manager of Mr. E. T. Bank's old mill consented to an opening being made in the dam for the passage of fish, as it is not in use. The fisheries of this bay are valued at only $2,741.

IBERVILLE DIVISION, INCLUDING RICHELIEU RIVER.

Overseer J. B. Chevalier states that owing to the freshets causing the waters to remain high for so long a period, the great eel weirs of this division were not got ready, and all fishing done was with hoop-nets and night-lines. The catch of eels, which last year amounted to 57,000 lbs., has dwindled down to 6,200 lbs. These eels are shipped to American markets, where they always find ready sale.

Overseer J. O. Dion also reports a great falling off, ascribed to the same reason as the above officer, viz., the high water prevailing during the best part of the fishing season. Mr. Dion hopes for beneficial results from the repairs to the St. Ours dam, but the work is not yet completed. Several fishing implements were seized by this officer during the season, with good effect.

CHATEAUGUAY DIVISION.

Overseer Joachim Laberge reports a general falling off of fish in his district, which he attributes to the prohibition to fish for soft fish during the spring time. Only twenty fishermen took licenses. Should the close season for bass remain from the 25th May to 1st July, it will be necessary to set apart Chateauguay River, otherwise the numerous anglers will soon deplete this stream of that game fish. As many as sixty fly fishermen were counted at one time. The Nun's dam at Chateauguay, and the one at Ste. Martine, were so much damaged by ice and freshets last spring that fish were afforded an easy

passage up the stream. The total value of these fisheries is computed at $10,240, while in 1891 it was $17,680.

BEAUHARNOIS DIVISION.

Overseer John Kelly returns about the same value of fish as he did in 1891, although he states bass and pickerel are falling off. This he attributes to the destruction of young fish by netting in the early season, and even recommends the total prohibition of seine or gill-nets there for a few years, to allow the finny tribe time to recuperate from their present exhausted condition. The total value is reckoned at $11,000.

LAPRAIRIE AND VERCHÈRES DIVISION.

Overseer John Morris reports an exceedingly small catch of all kinds of fish. Owing to the withdrawal of the permits to take soft fish during the spring close season, many fishermen did not think worth while to secure licenses after the spring fishing was over. The few who had permits did well. Bass were said to be more plentiful this season than for the past ten years ; even with hook and line good catches were secured. Mr. Morris complains that large quantities of young fish sent to Montreal markets from other divisions are so very small that they are totally unfit for food ; some consignments had to be thrown away as no sale could be effected. Samples of these were weighed—it took ten to the pound. The whole yield does not amount to $7,000, while in 1890, the same division yielded $40,000.

YAMASKA DIVISION.

Overseer Denis Shooner reports a falling off in the fisheries under his charge, which he ascribes to the prohibition of the privilege of capturing soft fish during the close seasons of other species. He is of opinion that some fishermen purposely underrate their catch. Should the soft fish prohibition be continued in force next season, Mr. Shooner thinks something should be done to strengthen the officers' hands to carry out their instructions. Amongst others, he suggests prohibiting the sale of these fish on the markets of Sorel, Three Rivers and Montreal, as well as their export which is now carried on an extensive scale. The total value is made up at $5,000.

NICOLET DIVISION.

Overseer George Boisvert states that owing to the prohibition to catch soft fish during the spring and to the extension of close seasons, fishing was prosecuted with less vigour than other years, and the yield is naturally smaller. About a dozen fishermen defiantly fished without licenses, and this officer with the assistance of two men could not seize their seines, as they were always together, and on one occasion nearly drowned them, as he and his two men barely escaped with their lives. An example should be made, some of these ruffians should be prosecuted and heavy fines or imprisonment imposed. The total value of the fisheries of this division amounts to $5,547.

Overseer Joseph Charbonneau states that there are no licenses granted in Yamaska River. He had to contend with illegal seining last spring, and three parties were fined for such infraction of the fishery laws. The fish-ways were not well repaired and will only be efficient when the water is high.

BERTHIER AND MONTCALM.

Overseer S. A. Grant makes no report, but returns a decreased catch as compared with that of previous years, attributed no doubt to the soft fish prohibition. The total value amounts to $6,500, a decrease of 25 per cent from last year.

Overseer Wm. Ritchie, of the Montcalm division, sent in his statements too late to be available for publication.

TERREBONNE DIVISION.

Overseer Joseph Lauzon states that licenses were issued later than usual, which accounts for the slightly decreased catch returned. Shad has almost entirely disappeared

from these waters. Hook and line fishermen did well. The fishery regulations were generally well observed.

Overseers Jos. Filiatrault and *T. Cloutier* report trout as plentiful in the inland waters of the above named division as ever. The extension of the close season to the 30th April will be an additional protection to this game fish. The regulations were generally well observed. Fish-passes are needed in different places and several owners of dams are willing to have them put in.

Overseer Damien Filiatrault states that the portion of River Jesus under his charge is almost entirely depleted of fish, and no improvement can be looked for, so long as the two principal dams on that stream remain unprovided with fish-passes.

LAKE TWO MOUNTAINS AND ISLE PERROT DIVISION.

Overseer Theo. Sabourin sends no report. He returns the yield of the Rigaud district at about 50,000 lbs. of fish, mostly coarse fish.

Overseer Julien Monpetit makes no report either, but returns a considerably decreased catch, remarking that fishermen, in his opinion, underrate the quantity of fish caught. The total value of the whole division only comes to $2,451, being a decrease of nearly 50 per cent as compared with 1891.

LOWER OTTAWA DIVISION.

Overseer Robt. W. Jones reports a falling off in some kinds of fish, owing to netting not being allowed before 1st July, while others showed signs of improvement, the general result amounting to $4,500, an increase over last year of $600. The four dams on North River are still unprovided with fish-passes. The close seasons are generally well observed, but his fishermen need close supervision. Only the fear of having their implements seized keeps them from illegal practices.

UPPER OTTAWA AND GATINEAU LAKES DIVISION.

Overseer Joseph Marion reports a shortage in the catch of fish, especially in that part of the Ottawa River from Carillon up to the Chaudière Falls. No signs of improvement can be expected there so long as the Government dam remains unprovided with a fish-pass, and so long as these waters are used as a receptacle for all saw-dust and rubbish from the large mills at the Chaudière and elsewhere along its banks. The fact that fishermen were not allowed to fish for coarse fish during the close season for other species, also contributed to the decrease. On the Gatineau lakes fishing was as good, if not better, than formerly. Nearly all these lakes are leased to clubs, who have agreed to efficiently protect them during the close seasons, and fish are certainly becoming more plentiful. In Lake des Chênes hook and line fishing alone was permitted.

PROVINCE OF QUE

RETURN showing the Number and Value of Vessels, Boats and Fishing Material, the **of Bonaventure**, Province

RESTIGOUCHE SUBDIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Smelt nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.
			$			$			$		$		$
Head of Tide to Maguasha					23	364	28	5330	5280			12	300
CARLETON SUBDIVISION													
Maguasha and Nouvelle					55	550	55	3400	900	300	150		
Carleton					82	820	82	4500	1400	400	200		
Maria					97	970	97	5600	1875	800	400		
Totals					234	2340	234	13500	4175	1500	750		
BONAVENTURE SUBDIVISION													
New Richmond					30	280	33	970	485				
Black Capes					27	165	35	2000	1200				
Capelin					175	1950	155	6000	2700	200	125		
Bonaventure					200	2900	200	10000	5000	1150	715		
New Carlisle	1	10	100	3	40	450	50	760	630	600	500		
Paspebiac					80	900	150	1300	900	300	225		
Totals	1	10	100	3	552	6645	623	21030	10915	2250	1565		
PORT DANIEL SUBDIVISION													
Paspebiac Portage					36	2200	85	1200	700	240	400		
Nouvelle					35	2100	90	1400	750	120	200		
Shigawake					30	900	60	1200	600	40	50		
Point Loup-Marin					65	820	100	1400	700	60	70		
Port Daniel					50	2500	120	1200	600	100	150		
L'Anse à la Barbe					25	1500	60	1000	600	100	150		
L'Anse aux Gascons					67	5000	170	2500	1200	300	450		
Totals					308	15020	685	9900	5150	960	1470		
TOTAL FOR COUNTY													
Restigouche Subdivision					23	364	28	5330	5280			12	300
Carleton "					234	2340	234	13500	4175	1500	750		
Bonaventure "	1	10	100	3	552	6645	623	21030	10915	2250	1565		
Port Daniel "					308	15020	685	9900	5150	960	1470		
Totals	1	10	100	3	1117	24369	1570	49760	25520	4710	3785	12	300

BEC—Gulf Division.

Number of Men employed, with the Kinds and Quantities of Fish, &c., in the **County** of Quebec, for the Year 1892.

(Head of Tide to Maguasha).

Kinds of Fish.											Fish Products.				
Smelt, lbs.	Salmon, fresh, lbs.	Cod, cwt.	Haddock, cwt.	Herring, barrels.	Herring, smoked, boxes.	Mackerel, barrels.	Trout, barrels.	Eels, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Cod Oil, galls.	Fish used as bait, barrels.	Fish used as manure, barrels.	Fish used for local consumption, barrels.	Value.
															$ cts.
30300	40140	.....	....	160	..	....	..	....	....	.....	.....	.....	.....	100	10,663 00
(Maguasha to Big Cascapedia River).															
....	6300	80	....	80	150	....	....	12	..	.....	40	20	4500	850	7,833 50
.....	3000	150	....	200	240	10	2	15	....	7600	75	30	14750	1200	15,859 00
.....	12500	1200	....	200	300	15	....	50	...	...	600	300	18000	1500	25,275 00
.....	21800	1430	....	480	690	25	2	77	...	7600	715	350	37250	3550	48,967 50
(Big Cascapedia to Paspebiac Point).															
.....	2500	100	....	.....	100	....	....	....	....	.....	60	20	400	240	2,189 00
.....	2700	350	....	10	80	..	..	....	....	....	253	50	500	235	3,546 20
.....	325	750	....	15	100	....	...	....	....	27280	500	450	5500	850	14,376 70
.....	600	3000	10	20	100	..	....	....	....	16800	2000	900	7500	2200	30,822 00
....	....	600	....	10	50	...	..	....	....	10560	400	375	4000	350	8,358 40
.....	....	2950	40	10	75	....	....	....	....	.....	2000	900	5000	850	21,528 75
.....	6125	7750	50	65	505	....	....	..	...	54640	5213	2695	22900	4725	80,821 05
(Paspebiac Point to Point Maquereau).															
....	.....	1700	20	200	.....	....	....	....	5	.....	1200	360	2000	250	11,690 00
.....	.....	900	....	50	.....	..	..	....	....	38496	600	260	100	250	11,344 44
...	....	700	5	50	.....	...	....	....	...	.....	500	430	300	150	4,987 50
.....	.....	850	....	30	....	....	....	....	..	25440	600	350	200	100	8,786 60
.....	21047	1700	....	30	...	..	....	....	5	27940	1200	380	600	150	17,906 00
.....	3727	1100	....	50	.....	..	....	....	10	16450	800	330	400	100	9,738 40
.. ..	743	2850	10	60	.....	...	....	....	10	....	2000	680	200	300	16,498 60
....	25517	9800	35	470	.....	....	...	....	30	108326	6900	2790	3800	1300	80,951 54
OF BONAVENTURE.															
30300	40140	.....	....	160	.....	..	....	....	....	.....	.....	.....	.....	100	10,663 00
.....	21800	1430	....	480	690	25	2	77	....	7600	715	350	37250	3550	48,967 50
...	6125	7750	50	65	505	....	....	....	..	54640	5213	2695	22900	4725	80,821 05
...	25517	9800	35	470	.....	....	....	....	30	108326	6900	2790	3800	1300	80,951 54
30300	93582	18980	85	1175	1195	25	2	77	30	170566	12828	5835	63950	9675	221,403 09

Marine and Fisheries.

RETURN showing the Number and Value of Vessels, Boats and Fishing Material,
County of Gaspé, Province

GRAND RIVER SUBDIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				
	Vessels.				Boats.			Nets.		Seines.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Smelt, lbs.
			$			$			$		$	
Newport					58	3,480	145	360	200	60	60	
Newport Point and Anse aux Canards					45	4,000	120	2,600	1,820	50	70	
Grand Pabos					29	1,700	67	1,500	400	65	55	
Little Pabos					35	2,200	76	1,800	915	45	50	
Grand River					89	6,275	217	4,075	2,550	125	130	
Cape Cove					70	4,500	160	3,150	2,100	80	80	
L'Anse à Beaufils					50	1,750	100	1,850	850	60	50	
Percé and Bonaventure Island					165	9,900	330	8,250	4,120	150	150	
Corner of Beach					13	300	26	340	180	20	20	
Totals					554	34,105	1,241	23,925	13,135	655	665	

GASPÉ SUBDIVISION (Corner

Barachois, Mal Bay					170	3,150	168	3,630	1,822	350	350	4,000
Malbaie					62	2,080	80	1,400	560	84	180	
Point St. Peter					62	3,400	92	1,480	1,070	150	195	
Chien Blanc					58	1,100	58	700	240	80	60	
Bois Brulé					26	554	32	360	170			
Seal Cove					33	615	39	625	200			
Douglastown					78	1,570	81	1,350	800	240	160	
Sandy Beach					38	440	45	1,843	1,570			
Gaspé, North and South					32	360	37	3,264	2,300	630	680	78,308
Peninsula					27	360	44	1,969	1,610			
Cape aux Os					23	384	21	755	460	20	10	
Little Gaspé					22	353	21	600	320			
Grande Grève					36	1,180	40	974	620	165	347	
Ship Head					47	1,384	44	1,360	1,140	40	55	
Cape Rosiers					64	1,260	105	800	300	50	50	
Totals					778	18,190	898	21,110	13,182	1,809	2,087	82,308

the Number of Men employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1892.

(Point Macquereau to Corner of Beach).

Kinds of Fish.								Fish Products.				Value.
Salmon, fresh, lbs.	Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, brls.	Mackerel, brls.	Cod Tongues and Sounds, brls.	Lobsters, in cans, lbs.	Cod Oil, galls.	Fish used as bait, brls.	Fish used as manure, brls.	Fish used for local consumption, brls.	$ cts.
.....	6,450	27	550	.....	....	....	22,512	3,225	850	40	500	36,911 18
100	5,375	20	700	....	....	2	14,400	2,687	900	30	395	30,403 40
10,800	4,850	10	100	.....	...	....	.....	2,425	1,200	35	90	27,177 50
.....	5,250	10	375	...	....	....	7,200	2,625	1,460	20	195	28,735 50
.....	16,300	35	425	...	....	3	40,560	8,150	2,200	27	325	87,096 90
.....	12,750	32	600	.. ..	....	....	33,600	6,375	3,250	180	200	70,566 00
.....	6,500	12	200	.....	....	....	.....	3,250	850	40	127	32,415 00
.....	12,500	75	.....	.....	....	....	32,440	6,250	4,550	.. ....	375	71,879 00
1,600	3,250	.....	....	.....	....	....	6,720	1,625	275	.....	35	17,088 30
12,500	73,225	221	2,950	.....	....	5	157,432	36,612	15,535	372	2,242	402,272 78

of Beach to Cape Rosiers).

6,080	3,300	.. ..	. .	100	..	....	....	2,700	800	.....	180	19,716 00
900	7,990	.....	.....	80	....	2	28,848	5,700	805	.. .	200	44,841 22
394	3,940	.....	.....	190	. .	....	.....	2,410	814	.... .	96	21,232 80
.....	1,170	.....	.....	100	....	....	....	850	348	.....	85	6,917 00
.....	750	.....	.....	45	....	....	14,928	550	190	.. ....	50	6,372 42
620	690	.....	.....	35	....	....	14,064	470	180	....	70	6,093 46
2,404	2,580	.....	....	300	..	....	.. ..	1,940	500	.....	200	15,766 80
8,449	384	. ...	.....	193	18	....	.....	290	135	....	50	5,056 80
19,324	....	.....	. . .	20	8	....	....	.....	.....	... .	40	8,142 20
11,511	200	.....	.....	65	25	....	.....	150	50	.....	40	4,139 70
2,325	325	.....	.....	8	....	....	8,640	240	172	....	34	3,663 10
900	305	...	.....	73	....	....	.....	230	184	... ..	72	2,537 00
1,100	860	.....	.....	47	....	....	.....	655	322	. .	95	5,426 50
720	940	....	....	50	....	....	....	690	352	.....	50	5,603 00
.....	1,500	... .	. .	120	....	....	.....	1,100	600	.....	120	9,110 00
54,727	24,934	.....	....	1,426	51	2	66,480	17,975	5,452	... .	1,382	164,618 00

Marine and Fisheries

RETURN showing the Number and Value of Vessels, Boats and

FOX RIVER SUBDIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.				KINDS		
	Vessels.				Boats.			Nets.		Seines.				
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Salmon, brls.	Salmon, fresh, lbs.	Cod, cwt.
			$			$			$		$			
Anse à Louise					58	1,225	56	1,320	630	20	15	....	.....	1,640
Jersey Cove					57	805	55	1,010	490	....	....	....	.....	1,300
Anse à Grisfonds					165	3,300	142	3,000	1,500	40	140	....	400	3,500
Fox River					183	3,630	169	3,320	1,700	130	160	....	.....	4,300
Petit Cap					82	1,150	93	1,960	1,250	....	....	....	.....	2,300
Echourie					29	680	23	370	250	....	....	....	.....	750
Pointe Jaune					25	250	18	400	330	....	....	....	.....	650
Anse à Valeau					30	300	29	470	200	....	....	....	.....	675
Totals					629	11,340	585	11,850	6,350	190	315	....	400	15,115

MAGDALEN RIVER SUBDIVISION

Grand Etang					26	350	26	725	360	80	60	....	....	1,000
Pointe Sèche					42	780	38	1,125	675	....	....	1	....	1,600
Chlorydorme					40	740	38	1,125	600	....	....	....	600	1,500
Frigate Point					39	300	42	1,025	455	....	....	....	.....	850
Grand and Little Vallée					67	915	76	1,450	695	30	50	....	400	1,450
Gros Male					40	275	41	624	175	....	....	....	100	650
Magdalen River					20	260	28	546	200	....	....	1	1,000	350
Anse Pleureuse					20	200	24	400	160	....	....	....	1,600	400
Monts Louis					36	500	40	720	360	80	60	....	1,480	450
Rivière à Pierre					11	75	12	180	60	....	....	....	....	150
Totals					341	4,395	365	7,920	3,740	190	170	2	5,180	8,400

STE. ANNE DES MONTS SUBDIVISION

Glaude River					15	650	30	450	320	....	....	6	....	468
Marsouins					9	290	18	250	175	....	....	....	.....	375
Martin River					8	250	15	352	250	....	....	....	.....	168
Ste. Anne's					52	1,800	86	1,320	950	140	96	....	875	1,278
Cape Chatte					20	800	40	950	600	106	90	....	.....	152
Totals					104	3,790	189	3,322	3,295	246	186	6	875	2,441

Fishing Material, &c., in the **County of Gaspé**, &c.—*Continued.*

(Cape Rosiers to Fame Point).

OF FISH.						FISH PRODUCTS.						VALUE.
Haddock, cwt.	Halibut, lbs.	Herring, brls.	Trout, brls.	Cod Tongues and Sounds, brls.	Porpoise skins, No.	Porpoise Oil, galls.	Whale Oil, galls	Cod Oil, galls.	Fish used as bait, brls.	Fish used as manure, brls.	Fish used for local consumption, brls.	
												$ cts.
40	3,000	425		4				1,300	400	80	250	11,932 50
25	3,000	450		5				1,060	380	110	250	10,361 50
25	5,000	500		6				2,500	700	100	300	22,027 50
35	9,000	520		8				3,500	900	130	430	27,327 50
25	5,000	240		7				1,500	240	55	180	13,795 00
15	2,100	170		3		40	1,500	500	150	35	90	5,851 00
22	2,600	190		5				400	90	15	40	4,629 50
10	1,200	150		4				450	150	25	50	4,525 00
197	30,900	2,645		42		40	1,500	11,210	3,010	550	1,590	100,449 50

(Fame Point to Rivière à Pierre).

30	4,500	12		2				650	140		30	5,719 00
35	5,000	23		4				1,100	260		56	9,036 00
30	10,000	40		4				1,000	300		60	9,285 00
12	4,200	27		4				550	180		40	5,098 50
14	9,000	30	1	4				950	320		75	8,899 00
	800	30		1				450	175		45	3,792 50
2	3,000	20		1				215	60		30	2,494 00
		15						266	65		30	2,511 40
		40						300	75		75	3,033 50
		10						100	35		20	892 50
123	36,500	247	1	20				5,581	1,610		461	50,761 40

(Glaude River to Cape Chatte).

	800	103						300	45	200	80	3,353 00
	1,200	20	3					200	40	95	42	2,283 00
	200	72	2					90	20	82	30	1,347 00
	1,230	1,150	12		20	40		860	300	182	360	13,710 00
	200	549	10		32	65		100	25	160	250	4,498 00
	3,630	1,894	27		52	105		1,550	430	719	762	25,191 00

Marine and Fisheries.

RETURN showing the Number and Value of Vessels, Boats and

MAGDALEN ISLANDS

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.								
	Vessels.				Boats.			Nets.		Seines.		Trap-nets.				
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Smelt, lbs.	Salmon, barrels.	Salmon, fresh, lbs.
			$			$			$		$		$			
Entry Island	..	..	.....	....	6	150	15	1000	500	..	..	..	.....	.....	..	.....
Amherst Island	3	105	2000	20	149	5370	372	15085	8730	1070	1160	..	.....	.....	..	. .
Grindstone Island	7	315	10500	50	107	10940	360	6880	2180	750	750	..	.....	.....	..	.....
Allright Island	5	225	7500	50	66	1980	153	1240	972	....	.....	..	..	.....	..	.....
Wolf Island	..	...	.....	....	40	1200	140	.....	.....	.....	.....	..	.....	.....	..	.....
Grand Entry Island	..	.....	.....	....	24	480	75	750	375	...	....	1	300	.....	..	.....
Grosse Isle	..	.....	...	....	25	750	64	100	100	....	.....	..	...	.....	..	.....
Bryon Island	..	....	.....	...	32	1120	68	160	90	..	...	..	.....	.....	..	.....
Totals	15	645	20000	120	449	21990	1247	25215	12947	1820	1910	1	300	.....	..	.....
TOTALS FOR COUNTY																
Grand River Subdiv.	..	....	.....	....	564	34105	1241	23925	13135	655	665	..	.....	....	..	12500
Gaspé "	..	....	.....	....	778	18190	898	21110	13182	1809	2087	..	.....	82308	..	54727
Fox River "	..	....	.....	...	629	11340	585	11850	6350	190	315	..	.....	.....	..	400
Magdalen "	..	....	.....	....	341	4395	365	7920	3740	190	170	..	.....	....	2	5180
Ste. Anne's "	..	....	.....	....	104	3790	189	3322	3295	246	186	..	..	.....	6	875
Magdalen Islands Subdivision	15	645	20000	120	449	21990	1247	25215	12947	1820	1910	1	300	.....	..	.....
Totals	15	645	20000	120	2855	93810	4525	93342	52649	4910	5333	1	300	82308	8	73682

Fishing Material, &c., in the **County of Gaspé**, &c.—*Concluded.*

SUBDIVISION.

Kinds of Fish.										Fish Products.							Value.
Cod, cwt.	Haddock, cwt.	Halibut, lbs.	Herring, barrels.	Mackerel, barrels.	Trout, barrels.	Cod Tongues and Sounds, barrels.	Lobsters, in cans, lbs.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Whale Oil, galls.	Cod Oil, galls.	Fish used as bait, barrels.	Fish used as manure, brls.	Fish for local consumption, barrels.	$ cts.
25	...	....	....	50	..	....	....	50	..	250	....	...	15	10	200	20	1,176 00
5855	350	2700	100	1258	..	2	94080	4380	..	22600	....	....	2113	40690	905	580	138,458 40
3620	100	2000	400	955	..	...	152976	2147	..	10700	...	....	2413	1320	200	850	66,825 79
150	14	..	25	650	..	....	35360	700	..	3500	....	....	100	410	....	730	20,746 90
100	....	....	....	400	..	....	4080	....	..	.....	....	...	60	160	...	20	6,965 20
70	...	.....	....	32	..	....	178452	....	..	.....	.. .	....	50	50	150	150	26,516 28
260	8	...	....	380	..	.. .	74152	200	..	1000	...	....	40	480	100	100	18,735 28
500	10	.....	40	1000	..	...	17280	240	..	1200	...	....	333	250	100	80	20,542 20
10580	482	4700	565	4725	..	2	556380	7717	..	39250	..	..	5124	43370	1655	2530	299,966 05

OF GASPÉ.

73225	221	2950	....	....	..	5	157432	....	..	.. .	....	....	36612	15535	372	2242	402,272 78
24934	....	..	1426	51	..	2	66480	.. .	..	.....	...	....	17975	5452	...	1382	164,618 00
15115	197	30900	2645	....	..	42	.....	...	..	.....	40	1500	11210	3010	550	1590	100,449 50
8400	123	36500	247	....	1	20	.. ...	..	..	.....	...	....	5581	1610	....	461	50,761 40
2441	....	3630	1894	....	27	....	.....	....	52	... .	105	...	1550	430	719	762	25,191 00
10580	482	4700	565	4725	..	2	556380	7717	..	39250	...	....	5124	43370	1655	2530	299,966 05
134695	1023	78680	6777	4776	28	71	780292	7717	52	39250	145	1500	78052	69407	3296	8967	1,043,258 73

Marine and Fisheries.

RETURN showing the Number and Value of Vessels, Boats and Fishing Material, **County of Saguenay,** Province

GODBOUT SUBDIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Trap-nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			$			$			$		$		$
Manicouagan	1	12	300	3	2	150	2	190	95				
Godbout					8	175	12	1,200	1,200	300	300		
Pointe des Monts					4	275	6	600	600	100	90	1	275
Trinity					11	400	11	950	775				
Caribou Islands	2	26	1,200	6	28	840	25	1,500	1,500	60	40		
Egg Island					5	150	9	275	200	40	30		
English Point					30	850	45	1,700	1,725	45	45		
Pentecost					5	200	9	270	195				
Cailles Rouges					5	150	11	150	130	45	60		
Totals	3	38	1,500	9	98	3,190	130	6,835	6,420	590	565	1	275

MOISIE SUBDIVISION

Jambons	3	61	995	12	16	520	30	780	411				
Ste. Marguerite					1	90	2	300	204	40	10		
Seven Islands	2	49	1,300	10	20	880	43	518	353	186	172		
Moisie	1	54	300	4	33	2,100	48	4,925	5,100	575	550		
Pigou					2	100	4	120	100	50	50		
Totals	6	164	2,595	26	72	3,690	127	6,643	6,168	851	782		

the Number of Men employed, with the Kinds and Quantities of Fish, &c., in the of Quebec, for the Year 1892.

(Manicouagan to Jambons.)

Kinds of Fish.											Fish Products.						Value.
Salmon, barrels.	Salmon, fresh, lbs.	Cod, cwt.	Halibut, lbs.	Herring, barrels.	Herring, smoked, lbs.	Mackerel, barrels.	Trout, barrels.	Cod Tongues and Sounds, barrels.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Cod Oil, galls.	Fish used as bait, barrels.	Fish used as manure, barrels.	Fish used for local consumption, barrels.	
																	$ cts.
....	.....	..	.....	35	..	....	....	....	115	..	495	....	....	....	15	15	566 75
..	17,084	139	510	207	.....	16	1	....	260	2	1,300	150	105	9	5	20	6,309 80
...	15,914	209	50	155	.....	....	....	....	196	..	980	....	70	3	....	7	5,525 30
....	20,571	145	1,235	146	.....	....	2	.. .	82	..	410	....	71	12	....	15	5,940 10
....	33,530	1,116	4,525	202	.....	....	....	1	44	..	220	....	558	84	...	25	13,691 70
....	.....	1,301	600	149	.....	....	....	....	7	..	35	....	650	100	....	6	7,041 75
....	15,256	5,163	3,850	423	... ..	....	1	3	3	..	15	....	2,581	95	....	95	30,177 85
....	.....	578	300	41	.....	....	7	....	2	..	6	....	279	30	70	127	3,590 00
....	2,380	989	500	75	.....	....	3	...	19	..	57	....	495	50	10	9	5,794 55
...	104,735	9,640	11,570	1,433	.....	16	14	4	728	2	3,518	150	4,809	383	100	319	78,547 80

(Jambons to Pigou.)

....	.....	1,721	2,620	414	5,500	....	.. .	7	1	..	4	...	1,200	108	....	25	10,739 35
....	6,125	45	.....	.....	.....	....	4	.....	.....	.....	.....	....	30	10	....	5	1,514 50
....	31,200	2,959	2,125	168	.....	....	....	4	111	..	368	....	1,973	201	....	55	22,146 65
4	206,146	3,900	2,000	.. .	.... .	....	9	7	41	..	198	....	2,250	113	....	59	60,639 15
....	.....	158	300	.....	.....	....	....	1	4	..	15	....	125	25	....	4	865 50
4	243,471	8,783	7,045	582	5,500	....	13	19	157	..	525	....	5,578	457	....	148	95,905 15

RETURN showing the Number and Value of Vessels, Boats and

MINGAN SUBDIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Trap-nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.
			$			$			$		$		$
Chaloupe					6	200	12			30	35		
Little River					8	400	16			75	75		
Sheldrake					39	1600	94	350	160	250	500	3	900
Thunder River	1	33	600	5	50	2000	100	100	50	150	300	2	500
Dock					21	850	44	20	20	30	40		
Ridge Point					14	540	28			40	40		
Jupitagan					3	80	9	120	60	30	30		
Magpie					70	3400	150	750	400	230	500		
St. John's River					62	3000	140	1750	1500	100	300		
Long Point					12	450	28	200	230	150	150		
Mingan					2	120	4	300	150				
Romaine					1	35	1	80	50				
Esquimaux Point					105	1450	190	1500	860	600	400		
La Corneille					4	120	5	420	270				
Piashter Bay					4	130	5						
Totals	1	33	600	5	401	14375	826	5590	3750	1685	2370	5	1400

NATASHQUAN SUBDIVISION

Watsheeshoo					2	25	2						
Nabisippi					1	15	2	200	75				
Agwanus	1	17	400	7	11	500	24	300	100	25	90		
Isle à Michon					6	270	14	100	40	30	25		
Natashquan Harbour					45	3700	96	200	100	160	200		
Little Natashquan	4	80	1400	25	20		52	1000	400	120	100		
Natashquan River					10		20	2120	530				
Totals	5	97	1860	32	95	6230	210	3920	1245	335	415		

Fishing Material, &c., in the **County of Saguenay**, &c.—*Continued.*

(Pigou to Watsheeshoo).

Kinds of Fish.							Fish Products.					Fish used for local consumption, barrels.	Value.
Salmon, barrels.	Salmon, fresh, lbs.	Cod, cwt.	Halibut, lbs.	Herring, barrels.	Trout, barrels.	Lobsters, in cans, lbs.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as bait, barrels.	Fish used as manure, barrels.		$ cts.
...	.....	300	.....	.....	.....	.....	...	.....	230	150	.....	16	1,731 00
.....	...	500	...	...	.....	.....	.....	....	360	190	25	30	2,811 50
2	....	4800	...	.....	.....	.....	.....	.....	3700	1000	70	85	24,987 00
.....	.....	3900	.....	...	.....	.....	.....	.....	3800	1000	230	170	21,365 00
.....	.....	2500	.....	.....	.....	.....	...	...	1750	500	.....	20	12,780 00
.....	.....	1400	.....	..	.....	.....	...	.....	950	300	...	16	7,194 00
5	.....	300	.....	...	.....	.....	.....	.....	220	100	.....	15	1,728 00
32	.....	6000	.....	40	.....	.....	.....	...	4500	1200	.....	260	32,332 00
.....	30000	4500	300	.....	.....	.....	.....	.....	3300	800	350	150	29,575 00
5	.....	800	.....	.....	.....	.....	12	50	520	100	20	50	4,283 00
8	4000	8	.....	.....	.....	.....	120	325	.....	....	....	2	1,252 00
.....	3000	....	.....	.....	2	...	2	5	.....	.....	.....	2	632 50
.....	.....	3600	1000	250	.....	.....	2200	5220	2500	1000	.....	450	26,563 00
5	.....	.....	.....	.....	.....	.....	50	150	.....	.....	.....	4	218 50
7	....	.....	.....	....	.....	2212	40	120	.....	...	.....	5	539 68
64	37000	28608	1300	290	2	2212	2424	5870	21830	6340	695	1275	167,992 18

(Watsheeshoo to English Point).

.....	.....	.....	.....	.....	.....	2064	.....	.....	.....	5	.. ..	2	304 46
8	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	....	... .	128 00
13	620	760	.....	....	2	.....	10	25	520	110	.....	50	4,367 50
1	.....	500	.....	... ..	.....	.....	.....	.....	375	60	. ....	15	2,566 00
1	.....	2900	1200	.....	.....	.....	.....	.....	2200	450	..	100	15,141 00
1	8700	1800	900	20	3	. . .	225	630	1250	200	.....	80	11,719 25
3	31750	220	.....	.....	.....	... .	.....	.....	160	50	.... .	15	7,587 00
27	41070	6180	2100	20	5	2064	235	655	4505	875	.....	262	41,813 21

RETURN showing the Number and Value of Vessels, Boats and

WASHEECOOTAI SUBDIVISION

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING			
	Vessels.				Boats.			Nets.		Seines.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.
			$			$			$		$
Kegashka					6	300	7	100	80	40	30
Mistassini					2	75	2	100	50		
Musquarro					2	20	2	60	40		
Washeecootai					3	30	3	200	100		
Romaine					4	80	4	200	100		
Coacoachoo					1	10	3	50	30		
Totals					18	515	21	710	400	40	30
ST. AUGUSTIN SUBDIVISION											
Wolf Bay					4	105	4	150	75	40	20
Etamamin					2	50	2	200	200		
Point à Mourier					2	60	2	150	75		
Harrington					30	600	36	300	150	350	275
Little Meccatina					2	50	3			30	18
Whale Head					24	400	28	810	480	100	50
Mutton Bay					31	915	40	260	277	278	200
Big Meccatina					3	150	5	100	100	120	100
La Tabatière					9	270	12	412	206	220	200
Big Meccatina Island					7	400	3	500	230	40	40
Kikapoe					4	150	3	400	200		
Whale Head East					1	15	3	200	175	40	60
St. Augustin River					8	121	9	1300	675		
St. Augustin Harbour					2	50	3	150	50		
Sandy Island					2	100	2	171	170		
Caucasippi					1	10	1	120	60		
Pointe à Giroux					1	25	1	150	100		
L'Anse au Portage					2	40	3	180	100		
Canso					1	30	2	150	150		
Chicatica					4	100	7	120	80	40	20
Totals					140	3641	169	5823	3553	1258	983

Fishing Material, &c., in the **County of Saguenay**, &c.—*Continued.*

(English Point to Coacoashoo)

Material.		Kinds of Fish.					Fish Products.				Value.
Trap-nets.											
Number.	Value.	Salmon, barrels.	Cod, cwt.	Herring, barrels.	Trout, barrels.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as bait, brls.	Fish used for local consumption, barrels.	
	$										$ cts.
		12	155	33		7	21	100	25	15	1,192 65
		10	10	6		3	9	5	5	1	252 85
		1			2	25	75			9	133 25
		9	9	4		9	27	6	5	1	238 45
		7	5	5	3	20	60	3	5	18	316 70
		2			2	17	51			3	105 65
		41	179	48	7	81	243	114	40	47	2,239 55

(Coacoachoo to Chicatica).

		1	200					133	50	5	1,064 20
		16								2	264 00
		2				80	240			2	236 00
3	660	3	2500	185		35	105	2000	610	60	14,171 25
			100					75	25	4	506 00
3	700	7	2000			500	1500	1500	500	48	11,879 00
4	725	7	3100			400	1200	2300	800	62	17,410 00
1	200	1	400	100		318	954	370	100	6	3,367 10
1	180	4	450	60		2000	6000	375	100	24	7,655 00
		3	233			300	900	160	50	4	1,986 50
		5	10			200	600	7	2	10	660 80
		5	10					7	2	2	138 80
		24	107		21			80	25	24	1,245 00
		1	200			150	450	150	50	3	1,430 50
		3	70		6			50	15	3	477 50
		1			4					2	64 00
		3	90					70	20	2	519 00
		7	140					90	30	3	835 00
		3	90					65	20	2	517 00
1	60	4	346					250	80	8	1,873 00
13	2465	100	10046	345	31	3983	11949	7682	2479	276	66,323 15

RETURN showing the Number and Value of Vessels, Boats and

BONNE ESPÉRANCE

NAME OF DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.					
	Vessels.				Boats.			Nets.		Seines.		Trap-nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.
			$			$			$		$		$
Bull Cove					3	140	4	640	150				
Bay of Rocks					7	520	12	300	150	300	400	2	400
Dog Islands					4	300	8	800	600				
Old Fort Islands					16	660	33	550	320				
Bonne Espérance	1	40	1000	10	80	4000	156	1800	900	1700	3000	5	900
Burnt Island					10	550	20	150	100	300	280	1	250
Pigeon Island					10	500	15	250	200	400	500	1	250
Stick Point					6	500	8	650	600	100	200	1	250
Salmon Bay					42	3000	125	200	200	1200	1500	2	500
Little Fishery					3	130	2	100	100				
Five League					4	200	4	500	500	200	150		
Middle Bay					22	1400	53	100	100	1500	2000	2	400
Belles Amours					1	50	2	150	130				
Bradore					21	750	30	1500	2000	1000	1200	2	500
Long Point					25	1000	43	4000	3500	600	600	2	400
Greenly Island					50	1800	100	750	750	1000	1000	1	200
Totals	1	40	1000	10	304	15500	615	12440	10300	8300	10830	19	4050

ANTICOSTI ISLAND

Fox Bay					18	750	30	750	350	200	100		
Salmon River					15	500	35	300	150				
Mauzerolle					8	200	20	200	100				
Capelin Bay					10	320	25	300	150				
Macdonald's Cove					20	600	45	300	150				
English Bay					15	500	22	400	250				
Strawberry Cove					20	400	33	300	150				
Shallop Creek					2	50	2	200	175				
Goose Point					10	350	20	150	100				
Cormorant Point					12	375	35	150	100				
					130	4045	267	3050	1675	200	100		

Fishing Material, &c., in the **County of Saguenay,** &c.—*Continued.*

SUBDIVISION.

Kinds of Fish.							Fish Products.					Value.
Salmon, brls.	Cod, cwt.	Halibut, lbs.	Herring, brls.	Trout, brls.	Lobsters, in cans, lbs.	Seal Skins, No.	Seal Oil, galls.	Cod Oil, galls.	Fish used as bait, brls.	Fish used as manure, brls.	Fish used for local consumption, brls.	$ cts.
11	120			10		25	75	120	10		6	964 25
9	1300					23	69	1300	220		40	7,060 35
3	300					300	1200	300	30		12	2,466 00
12	750					73	229	750	170		25	4,404 85
48	6000		100	5				6000	1500		320	34,198 00
2	1500					80	240	1500	300		25	8,128 00
12	1000							1000	250		15	5,527 00
4	250			9		19	57	250	25		5	1,483 65
	5000							5000	1250		250	27,375 00
8	100					57	171	100	10		5	792 65
15	200					200	750	200	20		6	1,824 00
5	3000		800			33	90	3000	650		100	19,832 25
2	50					15	45	50	10		5	348 75
	2000		300			1000	4500	2000	500		70	15,230 00
	750		150			1000	4500	750	70		80	7,825 00
	2000					500	2000	2000	500		90	12,335 00
131	24320		1350	24		3325	13926	24320	5615		1054	149,794 65

SUBDIVISION.

1	300	750	60	2	13000	10	30	200	160	50	30	4,140 25
5					30000	120	368				10	4,614 00
	500	500	100			12	36	330	200		6	3,235 40
3	550	1000	150		10500	15	45	366	200		8	5,283 15
2	1200	1500	200					800	450	10	15	7,594 60
	400	4000	40		9300	43	129	260	170	50	30	4,291 35
	500	6500	55			56	168	330	200	50	35	3,881 35
10				6		15	45				4	272 75
					50000						8	7,032 00
					60000						8	8,432 00
21	3450	14250	605	8	172800	271	813	2286	1380	160	154	48,676 85

RETURN showing the Number and value of Vessels, Boats and Fishing Material,

RECAPITULATION FOR THE

DISTRICT.	VESSELS AND BOATS EMPLOYED IN FISHING.							FISHING MATERIAL.									
	Vessels.				Boats.			Nets.		Seines.		Trap-nets.		Salmon, brls.	Salmon, fresh, lbs.	Cod, cwt.	Haddock, cwt.
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.				
Subdivisions.			$			$			$		$		$				
Godbout	3	38	1500	9	98	3190	130	6835	6420	590	565	1	275	...	104735	9640	....
Moisie	6	164	2595	26	72	3690	127	6643	6168	851	782	..	..	4	243471	8783	....
Mingan	1	33	600	5	401	14375	826	5590	3750	1685	2370	5	1400	64	37000	28608	....
Natashquan	5	97	1800	32	95	6230	210	3920	1245	335	415	..	....	27	41070	6180	....
Washeecootai	..	..	....	...	18	515	21	710	400	40	30	..	...	41	.....	179	....
St. Augustin	...	...	.....	...	140	3641	169	5823	3553	1258	983	13	2465	100	.....	10046	....
Bonne Espérance	1	40	1000	10	304	15500	615	12440	10300	8300	10830	19	4050	131	.....	24320	....
Anticosti	..	....	.....	...	130	4045	267	3050	1675	200	100	..	....	21	.....	3450	....
Totals	16	372	7495	82	1258	51186	2365	45011	33511	13259	16075	35	8190	388	426276	91206	....

RECAPITULATION FOR

COUNTIES.																	
Bonaventure	1	10	100	3	1117	24369	1570	49760	25520	4710	3785	12	300	...	93582	18980	85
Gaspé	15	645	20000	120	2855	93810	4525	93342	52649	4910	5333	1	300	8	73682	134695	1023
Saguenay	16	372	7495	82	1258	51186	2365	45011	33511	13259	16075	35	8190	388	426276	91206	..
Totals	32	1027	27595	205	5230	169365	8460	188113	111680	22879	25183	48	8790	396	593541	244881	1108

&c., in the **County of Saguenay** and the **Gulf Division,** for the Year 1892.

COUNTY OF SAGUENAY.

Kinds on Fish.											Fish Products.							Value.
Halibut, lbs.	Herring, brls.	Herring, smoked, lbs.	Mackerel, brls.	Trout, brls.	Eels, brls.	Cod Tongues and Sounds, brls.	Lobsters, in cans, lbs.	Smelt, lbs.	Seal Skins, No.	Porpoise Skins, No.	Seal Oil, galls.	Porpoise Oil, galls.	Whale Oil, galls.	Cod Oil, galls.	Fish used as bait, brls.	Fish used as manure, brls.	Fish used for local consumption, brls.	
																		$ cts.
11570	1433	.....	16	14	..	4	.....	.....	728	2	3518	150	....	4809	383	100	319	78,547 80
7045	582	5500	....	13	..	19	.....	....	157	..	525	...	.....	5578	457	.....	148	95,905 15
1300	290	.....	..	2	..	....	2212	.. ..	2424	..	5870	...	....	21830	6340	695	1275	167,992 18
2100	20	.. ..	....	5	..	....	2064	.....	235	..	655	...	....	4505	875	.....	262	41,813 21
.....	48	.....	....	7	..	..	.....	....	81	..	243	...	....	114	40	.....	47	2,239 55
.....	455	.....	....	31	..	....	.....	.....	3983	..	11949	..	....	7682	2479	.....	276	66,323 15
.. ..	1350	.....	...	24	..	....	.....	.. ..	3375	..	13926	...	....	24320	5515	.....	1054	149,794 65
14250	605	....	....	8	..	....	172800	. .	271	..	813	...	....	2286	1380	160	154	48,676 85
36265	4673	5500	16	104	..	23	177076	.....	11254	2	37499	150	....	71124	17469	955	3535	651,292 54

THE GULF DIVISION.

. ....	1175	29875	25	2	77	30	170566	30300	.....	..	.. ..	...	...	12828	5835	63950	9675	221,403 09
78680	6777	.....	4776	28	..	71	780292	82308	7717	52	39250	145	1500	78052	69407	3296	8967	1,043,258 73
36265	4673	5500	16	104	..	23	177076	.....	11254	2	37499	150	....	71124	17469	955	3535	651,292 55
114945	12625	35375	4817	134	77	124	1127934	112608	18971	54	76749	295	1500	162004	92711	68201	22177	1,915,954 36

RECAPITULATION.

YIELD and Value of the Fisheries of the Gulf Division, **Province of Quebec**, for the Year 1892.

Kinds of Fish.		Quantity.	Prices.	Value.
			$ cts.	$ cts.
Salmon	Brls.	396	16 00	6,336 00
"	Lbs.	593,540	0 20	118,708 00
Cod	Cwt.	244,881	4 50	1,101,964 50
Haddock	"	1,108	3 50	3,878 00
Mackerel, salted	Brls.	4,817	14 00	67,438 00
Herring "	"	12,625	4 50	56,812 50
" smoked	Lbs.	35,375	0 01	353 75
Halibut	"	114,945	0 10	11,494 50
Trout	Brls.	134	10 00	1,340 00
Eels	"	77	10 00	770 00
Cod tongues and sounds	"	124	10 00	1,240 00
Smelt	Lbs.	112,608	0 05	5,630 40
Lobsters, cans	"	1,127,934	0 14	157,910 76
Seal skins	No.	18,971	1 25	23,713 75
Porpoise skins	"	54	... ...	270 00
Fish oil	Galls	240,548	0 40	96,219 20
" bait	Brls.	92,711	1 50	139,066 50
" manure	"	68,201	0 50	34,100 50
" for local consumption, not included above	"	22,177	4 00	88,708 00
Total for 1892				1,915,954 36
" 1891				1,606,607 35
Increase				309,347 01

VALUE of the Material employed in the Gulf Fisheries, Season of 1892.

Articles.	Value.
	$ cts.
32 vessels, of 1,027 tonnage	27,595 00
5,230 fishing boats	169,365 00
188,113 fathoms of nets	111,680 00
22,879 " of seines	25,183 00
48 trap-nets	8,790 00
40 lobster canneries and plant	84,000 00
Total	426,613 00

STATISTICS OF FISHERIES IN THE PROVINCE OF QUEBEC,

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number
the River St. Lawrence from **Cape Chatte**

FISHING LOCALITIES.	FISHING BOATS.		No. of Fishermen.	KINDS OF NETS USED.				
				Gill Nets.			Brush Fisheries.	
	No.	Value.		No.	Fathoms.	Value.	No.	Value.
		$				$		$
Capucins	17	255	28	6	108	108		
Mechins	40	600	69	38	775	775		
Grosses Roches	14	210	22	15	270	270		
Ste. Félicité	31	465	48	25	450	450	4	8
Matane	12	180	21	11	239	239	11	22
Rivière Blanche	6	90	13	6	108	108	6	9
Sandy Bay	11	110	11					
Metis			7				7	17
Ste. Flavie			2				2	5
Ste. Luce			15	1	80	25	14	35
Pointe au Père			11				11	27
Rimouski			12				12	32
Sacré-Cœur			10				10	20
Bic			10				10	20
St. Fabien			4				4	8
St. Simon			4	4	75	60		
Inland waters of Rimouski								
Inland waters of Temiscouata								
Notre Dame des Sept Douleurs	17	1900	38				26	260
Isle aux Pommes	1	100	2				1	5
Trois Pistoles			11				7	70
Isle Verte	5	550	19				9	90
Cacouna	2	150	10				10	100
Rivière du Loup			9				6	90
St. André	1	50	11	2	70	28	12	175
Kamouraska			14	1	15	6	6	57
St. Denis			38	10	1610	644	4	112
Rivière Ouelle			54	47	3620	1448	2	30
Ste. Anne de la Pocatière			22					
Inland waters, Co. L'Islet								
St. Roch			40				1	15
St. Jean			50					
Trois Saumons			3					
L'Islet			35					
Anse à Gilles			4					
Cap St. Ignace			16				7	63
Ile aux Grues			24				24	240
St. Thomas	1	12	21				7	110
Berthier	4	40	20				4	203
St. Valier	6	170	2				2	400
St. Michel	5	55	5				5	280
Beaumont	9	240	4				4	270
Point Lévis	11	400	7				6	303
Totals	193	5577	746	166	7420	4161	234	3083

EXCLUSIVE OF THE GULF OF ST. LAWRENCE.

of Men, together with the Yield, Value and Kinds of Fish, &c., on the South Shore of to **Point Lévis,** during the Year 1892.

Eel Fisheries.		Kinds of Fish.													Value.
No.	Value.	Salmon, lbs.	Trout, lbs.	Shad, lbs.	Herring, barrels.	Eels, lbs.	Sturgeon, lbs.	Sardines, barrels.	Whitefish, lbs.	Pickerel, lbs.	Coarse and small fish, barrels.	Fish for manure, barrels.	Porpoise oil, gallons.		
	$														$ cts.
					30										*2,312 00
		6066	600		410										135 00
					145										3,118 20
					260			160							652 50
		2394	1200		100			1500			100	400	6000		1,650 00
		60			300			100				100			8,448 80
					300										1,712 00
		540			540		120								1,350 00
		60			30										2,545 20
		6720			1150		30					500			147 00
		2640			2350		40					300			6,770 80
2	10	860			1200	1000					200	400			11,255 40
		1200			1000						10				6,432 00
		1500			400										4,770 00
		600			100			40							2,100 00
		600													690 00
			12000												120 00
			12000												1,200 00
		500		2500	2400		3000	622			3400	200			1,200 00
					10		200	60			2000	10			23,396 00
		330		200	120		200	40			300	20			6,242 00
3	75	190		1000	300	900	2500	220			200	40			1,660 00
4	100	2400		500	500	800	509	440			800	50			2,932 00
2	50	380		100	210	500	600	120			1000	20			6,583 00
21	470	25		443	11	6850	6420	576			50	139			4,463 00
7	220	200		3016	20	6450	4360	172				120			2,824 78
14	480	440		20000	406	20250	1700	80				60			1,535 56
52	1540	300		10000	40	88400	2000	20				20	4800		4,702 00
22	840			116		23020	17300					20	1200		‡8,638 00
			7000												‡3,012 10
39	3000					20225					125	125			700 00
50	3860					50300					135	135			1,651 00
3	160					1000					5	5			3,490 50
42	3360					35305					114	114			77 50
6	560					2700					9	9			2,517 30
9	460					4800	8150		1800	1000	29				193 50
						87400					28				1,058 00
14	660			800		15800	4400		7854	1000	37				5,328 00
17	550	290		3680		25430	2100		12200	1100	17				2,049 32
		1630		8400		24000	3260		32400	2450	18				3,012 60
		619		6750		20200	2800		5148	520	21				5,230 50
		1110		14400		7600	3000		10700	1000	19				2,409 64
		1120		6950		18400	1800		8000	1270	25				2,685 00
															2,631 50
307	16395	32774	32800	78854	12332	461330	64420	4150	78102	8340	8642	2787	12000		155,631 70

*In Matane District 328 brls. codfish, value $1,312; 10,000 lbs. halibut, value $1,000; total value, $2,312.

‡ At Rivière Ouelle, 96 white whales (marsouins) and at Ste. Anne de la Pocatière, 24, equal to 6,000 gallons of oil.

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number of the River St. Lawrence from **Quebec**

FISHING LOCALITIES.	FISHING BOATS.		Number of Fishermen.	KINDS OF NETS USED.						
				Gill Nets.			Brush Fisheries.		Eel Fisheries.	
	Number.	Value.		Number.	Fathoms.	Value.	Number.	Value.	Number.	Value.
		$				$		$		$
Island of Orleans.										
St. Laurent			6	6	2100	1500				
St. Jean			6	5	970	665			1	50
St. François (South)			16	2	600	600			14	892
Argentenay			9						9	510
St. François (North)			5				5	160		
Ste. Famille			10	1	220	200	5	160	4	120
St. Pierre			7	7	1540	1400				
North Coast.										
Chateau Richer			5	2	500	400	3	62		
Ste. Anne			5				1	20	4	70
St. Joachim			25						25	2186
Isles Madame and aux Réaux			3	2	400	240			1	100
St. Siméon			5	2	230	20	3	20		
Ste. Fidèle			7	2	200	20	5	30		
Malbaie			19	2	250	25	17	85		
Bay St. Paul and neighbouring lakes in the County of Charlevoix			35						35	3000
Ile aux Coudres			47				20	210	47	300
Les Eboulements			24				21	240	24	230
St. Irénée			18				18	200		
Saguenay Division.										
Rivière aux Canards	2	30	2				2	30		
Anse Ste. Catherine	2	30	2				2	40		
Tadoussac	3	45	5				1	20		
Pointe Rouge	1	100	3	2	200	150				
Moulin Baude	1	20	1	1	80	50				
Anse Puante	1	15	1	1	100	60				
Pointe à la Cariole	1	20	1	1	100	50				
Anse aux Pilotes	2	40	2	2	125	80				
Bon Désir	1	15	1	1	75	50				
Escoumains	4	50	5	4	400	200	1	20		
Baie des Bacons			3				3	60		
Sault au Mouton			1				1	20		
Mille Vaches			3				3	60		
Pointe à Boisvert	1	15	1	1	130	60				
Portneuf	2	30	2	2	150	75				
Sault au Cochon	1	15	1	1	120	60				
Colombier	3	45	3	3	300	150				
Islets Jérémie			1				1	20		
Bersimis	1	15	1	1	160	80				
Inland waters										
Lake St. John Division			170	170	6800	950				
Totals	26	485	461	221	15750	7085	112	1457	164	7458

of Men, together with the Yield, Value and Kinds of Fish, &c., on the North Shore to **Bersimis**, during the Year 1892.

Kinds of Fish.											Value.
Salmon, lbs.	Trout, lbs.	Shad, lbs.	Herring, barrels.	Eels, lbs.	Sturgeon, lbs.	Sardines, barrels.	Whitefish, lbs.	Pickerel, lbs.	Coarse and small fish, barrels.	Fish for manure, barrels.	
											$ cts.
1340		6350		11900			4480				1,721 40
1350		5100		14400			7320				2,025 60
480		2000		21600			3600				1,800 00
				10800			1900				800 00
				1200							72 00
24		100		4250	1800						373 80
216		730		14800	200						987 00
30		140		4600	3800		7920	2340	15		1,314 00
				2400			960	360	2		244 80
				36350							2,181 00
560		1750		6400	800		3120	660			931 60
375	1200		4			10			3	100	302 00
180	500		17			30			4	300	414 50
225	3000		40			50			10	600	1,005 00
	45000			15000							5,400 00
				4000					10	30	*483 00
			4	850		20			12	500	415 00
			10			30			10	400	365 00
360			2						2	10	92 00
400			5						3	35	†3,369 00
			5							75	60 00
7000											1,400 00
3000											600 00
1200											240 00
3000											600 00
5360											1,072 00
1500											300 00
7240			3			5				30	1,491 50
200			4			14				50	125 00
120			1			2				6	37 50
100			6			10				60	107 00
3000											600 00
5280											1,056 00
3000											600 00
5800											1,160 00
200			3			1				15	64 00
1240											248 00
	25000										2,500 00
	10000						20000	50000	480		‡13,540 00
52780	84700	16170	104	149050	6600	172	49300	53360	551	2211	50,097 70

* Add 7 white whales (marsouins), yielding 350 gallons of oil; total value, $168.

† At Ste. Catherine and vicinity, 135 white whales (marsouins), yielding 6,750 galls. of oil; total value, $3,240.

‡ Add 100,000 lbs. winninish, 20,000 lbs. pike; total value, $7,000.

RETURN of Fishing Stations, Number and Value of Fishing Boats and Nets, Number
extending from **Quebec** to **Upper**

DIVISIONS.	FISHING BOATS.		No. of Fishermen.	KINDS OF NETS USED.								
				Gill Nets.			Seines.		Hoop Nets		Eel Fisheries.	
	No.	Value.		No.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
		$				$		$		$		$
Sherbrooke and Megantic	....	....	60	....	....	.....	.....	.....	....	.....	....	.....
Magog and Brome	....	....	30	....	....	.....	.....	.....	....	.....	....	.....
Missisquoi Bay	13	166	35	....	....	.....	1020	420	....	....	....	.....
Iberville, including Richelieu River	61	696	78	....	.....	.....	310	280	127	1780	3	8000
Chateauguay	60	1080	120	....	....	....	268	210	....	.....	....	.....
Beauharnois	44	660	90	26	300	312	280	650	...	....	....	....
Laprairie to Verchères, including Montreal and vicinity	46	460	60	....	.....	.....	420	8400	....	.....	....	....
Richelieu County and St. Francis River	90	630	64	31	600	130	950	560	....	.....	....	.....
Yamaska County and River	21	125	30	....	.....	.....	.....	....	....	....	2	75
Nicolet	22	158	24	3	35	300	160	100	....	.....	22	55
Three Rivers*	15	150	15	....	....	.....	.....	.....	....	.....	....	.....
Berthier, Joliette, Montcalm	35	280	35	....	....	.....	600	360	....	.....	....	.....
Terrebonne	45	270	70	3	37	22	184	185	....	.....	....	.....
Lake of Two Mountains and Isle Perrot	15	140	18	56	840	125	.....	.....	....	...	....	.....
River Beaudet	....	.....	5	2	38	25	100	75	....	.....	....	...
Lower Ottawa	15	150	15	50	550	250	.....	.....	....	.....	....	.....
Upper Ottawa	73	765	73	136	1100	525	....	.....	....	.....	...	.....
Gatineau Lakes	....	.....	....	....	.....	.....	.....	.....	....	.....	....	....
	554	5730	822	307	3500	1689	4292	11240	127	1780	27	8130

* Estimated. The total value includes $7,500 for 15,000 bushels of tom-cods.

of Men, together with the Yield, Value and Kinds of Fish, &c., within the District **Ottawa,** during the Year 1892.

Kinds of Fish.										Value.
Trout, lbs.	Shad, lbs.	Eels, lbs.	Sturgeon, lbs.	Whitefish, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse and small fish, lbs.	
										$ cts.
48100	4000	8000	5500	3500	16800	17100	18000	17200	26000	10,714 00
33000	.....	2000	.....	.....	.....	12000	1000	.....	80000	6,590 00
.....	9750	.....	.....	.....	.....	.....	23090	.....	33400	2,741 50
.....	.....	31400	300	.....	.....	1600	3050	3900	116100	5,828 50
.....	.....	12000	50000	.....	2000	30000	20000	12000	100000	10,240 00
.....	.....	39300	30300	.....	3600	6350	9500	18430	163400	11,071 50
.....	500	20000	11000	.....	10000	5000	18000	30000	60000	6,930 00
.....	.....	6200	200	.....	600	500	3500	1200	20000	1,285 00
.....	.....	22300	4300	150	6700	2500	4635	11375	71800	5,114 50
.....	600	16450	5850	250	700	1000	1300	1240	120000	5,547 00
20000	500	10000	3000	.....	.....	.....	5000	10000	20000	11,660 00
30000	1500	500	1500	300	200	100	300	4000	100000	6,467 00
50000	.....	1275	1070	.....	1000	3450	3500	3000	.....	5,732 70
.....	.....	2500	2000	.....	4800	2320	8300	8000	31300	2,451 20
.....	.....	28000	800	.....	1000	1200	700	900	.....	1,940 00
1250	2100	2400	21000	2250	1200	800	7000	14000	50000	4,505 00
.....	.....	2600	6500	160	3850	2960	6300	8400	26600	2,500 00
95600	.....	.....	.....	9250	.....	10250	6300	50000	.....	13,730 00
277950	24350	204925	142320	15860	52450	97130	139475	193645	1018600	115,048 30

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries from **Cape Chatte** to **Point Lévis,** in 1891 and 1892.

Kinds of Fish.	Prices for 1892.	1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
	$ cts.		$ cts.		$ cts.
Shad ..... Lbs.	0 06	20,993	1,255 98	78,854	4,731 24
Eels. ..... "	0 06	279,261	16,755 66	461,330	27,679 80
Herring..... Brls.	4 50	22,130	99,585 00	12,332	55,494 00
Sturgeon..... Lbs.	0 06	65,851	3,951 06	64,420	3,865 20
Sardines..... Brls.	3 00	6,848	20,544 00	4,150	12,450 00
Trout..... Lbs.	0 10	32,000	3,200 00	32,800	3,280 00
Salmon ..... "	0 20	38,610	7,722 90	32,774	6,554 80
Whitefish and bar fish..... "	0 08	39,570	3,165 60	78,102	6,248 16
Pickerel ..... "	0 05	5,703	285 15	8,340	417 00
Coarse and mixed fish..... Brls.	3 00	9,482	28,446 00	8,642	25,926 00
Porpoise skins (marsouins)..... No.	4 00	21	84 00	120	480 00
" oil..... Galls.	0 40	2,250	900 00	12,000	4,800 00
Fish for manure..... Brls.	0 50	8,036	4,018 00	2,785	1,393 50
Cod ..... "	.....	.....	.....	328	1,312 00
Halibut..... Lbs.	.....	.....	.....	10,000	1,000 00
Total value of the fisheries.....	.....	.....	189,912 45	.....	155,631 70
Decrease.....	.....	.....	.....	.....	34,280 75

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries from **Quebec** to **Bersimis,** in 1891 and 1892.

Kinds of Fish.	Prices for 1892.	1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
	$ cts.		$ cts.		$ cts.
Shad ..... Lbs.	0 06	718	43 08	16,170	970 20
Eels ..... "	0 06	114,360	681 60	149,050	8,943 00
Herring..... Brls.	4 50	240	1,080 00	104	468 00
Sturgeon..... Lbs.	0 06	8,800	528 00	6,600	396 00
Sardines ..... Brls.	3 00	375	1,125 00	172	516 00
Salmon..... Lbs.	0 20	69,030	13,806 00	52,780	10,556 00
Trout..... "	0 10	98,000	9,800 00	84,700	8,470 00
Pickerel ..... "	0 05	59,268	2,963 40	53,360	2,668 00
Pike ..... "	0 05	24,000	1,200 00	20,000	1,000 00
Whitefish..... "	0 08	38,672	3,093 76	49,300	3,944 00
Winninish ..... "	0 06	100,000	6,000 00	100,000	6,000 00
Coarse and mixed fish..... Brls.	3 00	780	2,340 00	551	1,653 00
Fish as manure ..... "	0 50	10,900	4,450 00	2,211	1,105 50
Porpoise skins (marsouins)..... No.	4 00	280	1,120 00	142	568 00
" oil..... Galls.	0 40	16,800	6,721 00	7,100	2,840 00
Total value of the fisheries.....	.....	.....	62,130 84	.....	50,097 70
Decrease.....	.....	.....	.....	.....	12,033 14

COMPARATIVE RECAPITULATION

Of the Quantity and Value of the different Fisheries, from **Quebec** to **Upper Ottawa,** in 1891 and 1892.

Kinds of Fish.	Prices.	1891.		1892.	
		Quantity.	Value.	Quantity.	Value.
	$ cts.		$ cts.		$ cts.
Shad ..... Lbs.	0 06	34,790	2,087 40	24,350	1,461 00
Eels ..... "	0 06	396,080	23,764 80	204,925	12,295 50
Sturgeon ..... "	0 06	194,350	11,661 00	142,320	8,539 20
Trout ..... "	0 10	297,350	29,735 08	277,950	27,795 00
Whitefish ..... "	0 08	37,320	2,985 60	15,860	1,268 80
Maskinongé ..... "	0 06	87,535	5,252 10	52,450	3,147 00
Bass ..... "	0 06	114,370	6,862 20	97,130	5,827 80
Pickerel ..... "	0 05	186,630	9,331 50	139,475	6,973 75
Pike ..... "	0 05	260,710	13,035 50	193,645	9,682 25
Mixed fish ..... "	0 03	1,267,100	38,013 00	1,018,600	30,558 00
Tom cod ..... Bush.	0 50	15,809	7,500 00	15,000	7,500 00
Total value of the fisheries			150,228 10		115,048 30
Decrease					35,179 80

RECAPITULATION.

Yield and Value of the Fisheries of the **Province of Quebec** (*exclusive of the Gulf Division*) for 1892.

Kinds of Fish.	Quantity.	Value.
		$ cts.
Shad ..... Lbs.	119,374	7,162 44
Eels ..... "	815,305	48,918 30
Herring ..... Brls.	12,436	55,962 00
Sturgeon ..... Lbs.	213,340	12,800 49
Sardines ..... Brls.	4,322	12,966 00
Trout ..... Lbs.	395,450	39,545 00
Salmon ..... "	85,554	17,110 80
Pickerel ..... "	201,175	10,058 75
Pike ..... "	313,645	10,682 25
Whitefish ..... "	143,262	11,460 96
Maskinongé ..... "	52,450	3,147 00
Bass ..... "	97,130	5,827 80
Tom cod ..... Bush.	15,000	7,500 00
Winninish ..... Lbs.	100,000	6,000 00
Mixed fish ..... Brls.	14,286	58,137 00
Fish as manure ..... "	4,996	2,499 00
Porpoise skins ..... No.	272	1,048 00
" oil ..... Galls.	19,100	7,640 00
Halibut ..... Lbs.	10,000	1,000 00
Cod ..... Brls.	328	1,312 00
Total in 1892		320,777 70
" 1891		397,979 39
Decrease		77,201 69

RECAPITULATION.

YIELD and Value of Fisheries in the **whole Province of Quebec** for 1892.

Kinds of Fish.		Quantity.	Value.
			$ cts.
Cod, dried	Cwt.	224,881	1,101,964 50
"	Brls.	328	1,312 00
" tongues and sounds	"	124	1,240 00
Haddock	Cwt.	1,108	3,878 00
Mackerel	"	4,817	67,438 00
Herring	Brls.	25,061	112,774 50
" smoked	Lbs.	35,375	353 75
Salmon	Brls.	396	6,336 00
" fresh	Lbs.	679,094	135,818 80
Halibut	"	124,945	12,494 50
Shad	"	119,374	7,162 44
Eels	"	830,705	49,688 30
Sturgeon	"	213,340	12,800 40
Sardines	Brls.	4,322	12,966 00
Trout	Lbs.	422,250	40,885 00
Smelts	"	112,608	5,630 40
Pickerel	"	201,175	10,058 75
Pike	"	213,645	10,682 25
Maskinongé	"	52,450	3,147 00
Bass	"	97,130	5,827 80
Whitefish	"	143,262	11,460 96
Tom cod	Bush.	15,000	7,500 00
Winninish	Lbs.	100,000	6,000 00
Lobsters	Cans.	1,127,934	157,910 76
Mixed fish	Brls.	14,286	58,137 00
Seal skins	No.	18,971	23,713 75
Porpoise skins	"	316	1,318 00
Fish oil	Galls.	259,648	103,859 20
Fish as bait	Brls.	92,711	139,066 50
" as manure	"	73,197	36,599 50
" for local consumption	"	22,177	88,708 00
Total for 1892			2,236,732 06
" 1891			2,008,678 74
Increase			228,053 32

STATEMENT

OF the Number and Value of Boats, Nets and other Fishing Material employed in the Province of **Quebec** (exclusive of the Gulf Division).

Articles.	Value.
	$ cts.
773 boats	11,792 00
30,962 fathoms of nets and seines	24,175 00
127 verveux (hoop-nets)	1,780 00
498 eeel weirs	31,983 00
346 brush weirs	32,272 00
Total	102,002 00

NOTE.—The number of men engaged fishing is given at 2,029, but they cannot be considered as regular fishermen, as most of them only fish during a short period of the year.

STATEMENT

Of Vessels and Boats and other Fishing Material employed in the **whole Province of Quebec**, for 1892.

Articles.	Value.
	$ cts.
32 vessels, of 1,027 tons	27,595 00
6,003 boats	181,157 00
241,954 fathoms of nets and seines	161,038 00
48 trap-nets	8,790 00
46 lobster canneries 47,000 " traps	84,000 00
844 eel and brush weirs	64,255 00
127 hoop-nets	1,780 00
Total	528,615 00

APPENDIX E.

MANITOBA AND NORTH-WEST TERRITORIES.

ANNUAL REPORT OF INSPECTOR ALEXANDER McQUEEN ON THE FISHERIES OF MANITOBA, FOR THE YEAR 1892.

WINNIPEG, 31st December, 1892.

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to forward you a supplementary report on the fisheries of Manitoba, so as to complete the record of fishing operations for the year ending 31st December, 1892. My previous report of the 4th of October last fully covered all matters pertaining to summer fishing and the catch by the commercial fishermen in Lake Winnipeg. It therefore remains now to give an account of the work done by winter fishermen, and give statistics of the catch under domestic licenses. In addition to this, reference will be made to infractions of the regulations, and the penalties imposed upon those violating them.

WINTER FISHING.

Winter fishing was carried on this year at the usual fishing stations on Lakes Winnipeg, Manitoba, Dauphin, Winnipegosis and St. Martin. There were two hundred and thirty domestic licenses issued for the year 1892, the greater portion of which were used on Lakes Manitoba and St. Martin. These were operated chiefly by Indians, Half-breeds and Icelanders, the latter nearly all on Lake Winnipeg. The catch aggregated for the year 3,425,155 lbs., valued at $102,192.73. Of this quantity 1,020,125 lbs. were sold to the trade and the remainder used for home consumption. The catch is somewhat smaller than that of the previous year, but this is accounted for from the fact that the close season for whitefish was extended from the 1st of December to the 15th. When the extension was made no provision was made for catching pickerel, pike, &c., during the whitefish close season, and the fishermen were delighted when a subsequent order was issued granting settlers this privilege. Winter fishing gives employment to a considerable number of men and teams in driving the fish to market. In a great many cases dealers purchase from the fishermen direct at the several stations, paying them according to the distance from market, from 3 cents to 4½ cents per pound for whitefish, 2½ cents to 4 cents for pickerel, and 1 cent to 2 cents per pound for pike. Tullibee are caught in large numbers during winter, and are sold at about the same price as pike. The appliances for winter fishing are very simple. Holes are cut in the ice, and the gill nets are stretched underneath between them, and held in position by stakes. They are usually left in the water two or three days, when they are taken up, emptied, and replaced in position. The fish freeze upon the ice as they are caught, and are shipped to market in this state.

INFRACTIONS OF THE REGULATIONS.

There have been a number of instances of violations of the close season for whitefish, and also for fishing with illegal nets. Three persons were fined $5 each for fishing for whitefish at Black Island, lake Winnipeg, during the close season. Several other nets, the owners of which could not be found, were confiscated and destroyed. Over-

seer Martineau had seven men arraigned before a magistrate for fishing whitefish during close season at Birch Island, Lake Manitoba, but six of them were released on the plea of poverty and ignorance of the close season regulations. The other, who had no license, had his fish and nets confiscated and sold. Eight gill nets which I found set in the Red River during close season were seized and destroyed, also three seines of illegal-sized mesh.

OVERSEERS' REPORTS.

The overseers and guardians during the year, with two exceptions, discharged their duties satisfactory. Guardians Archer and Jonsson having refused to enforce the new regulations, were relieved of their duties about the close of the year, and Charles Wood and William Hughes appointed in their stead. Subjoined is a synopsis of overseers' reports from the different districts.

ST. LAURENT, LAKE MANITOBA.

Guardian Devlin who has charge of the fishing stations on the east side of Lake Manitoba in the vicinity of St. Laurent, reports that the close seasons were strictly observed. In this district, there were sold to the trade :—

	Lbs.	Value.
Whitefish	65,400	$2,943 00
Pickerel	98,900	3,708 75
Pike	197,500	2,962 50
Tullibee	9,700	145 50
	371,400	9,759 75

In addition, he reports 52,500 lbs. of mixed fish, valued at $1,837.50, used for home consumption, making a total catch of 423,900 lbs., valued at $11,527.25.

The number of men employed and the quantity of gill-nets used, were as follows :—

	Men.	Fathoms.	Value.
Clandeboye	15	2,500	$240 00
St. Laurent and Lake Francis	30	3,000	309 00
Oak Point to Long Point	35	4,500	450 00
	80	10,000	$990 00

There were no boats of any kind used for fishing in this district.

The guardian reports that Blackwood Bros. of Winnipeg, are preparing to erect a freezer and ice house at St. Laurent or Clandeboye Bay next season, with a view to preserve fish.

THE NARROWS, LAKE MANITOBA.

Overseer Martineau reports the close seasons well observed at the different fishing stations at the Narrows of Lake Manitoba, with the exception of the fishing at Birch and Sugar Islands, where it was found that several parties were fishing with nets contrary to the fishery regulations. Forty-one nets were seized and 92 whitefish found therein during the close season. The owners were brought before a magistrate who released those having licenses, owing to their ignorance of the law, and the using of illegal sized mesh-nets to catch coarse fish. Those who were found fishing without a license had their fish and nets seized and sold at public auction. He states that this will have a salutary effect in future in making fishermen comply with the regulations.

In interviewing fishermen on both sides of Lake Manitoba, they all complain that the close season for whitefish is too long, and desire it amended so as to extend from the 1st of October to the 30th of November of each year. He reports that no whitefish have ever been caught with spawn in them in his district in December.

Fishing operations for the trade are always carried on in winter. During the rest of the year the settlers only fish for their own use.

The sale of fish to the trade in this district was as follows :—

	Lbs.	Value.
Whitefish	46,015	$1,384 20
Pickerel	6,350	127 00
Pike	50,135	250 67
Tullibee	2,100	52 50
Gold-eyes	9,700	97 00
	114,300	$1,911 37

In addition to above, he reports 146,000 lbs. mixed fish of all kinds used for home consumption, and valued at $2,530.75.

He reports fish of all kinds plentiful during the year. The catch, however, owing to a strict observance of the fishery regulations and other causes, was smaller than that of the previous year. He finds it difficult to furnish an estimate of home consumption, owing to the Indians and other fishermen being reluctant to give the desired information.

The ordinary gill-nets are the only kind of nets used in this district. The quantity of twine used amounted to 4,274 fathoms, valued at $427.40. They also used 33 boats or skiffs, valued at from $10 to $25 each. The carrying capacity varies from 300 to 8,000 pounds. Sixty-eight fishermen were engaged during the year in fishing.

He reports in regard to the improvements made by the Local Government at the mouths of ditches running into Lake Manitoba, and states that 10 new gates were constructed on the east shore and 17 on the west shore of the lake. The gates vary in size from 12 to 30 feet long and 4 feet high. These gates were built to prevent fish from ascending into the swamps and meadows during high water in the spring, where, when the water receded, they would be left in very large numbers dead on the prairie.

FAIRFORD LAKE, MANITOBA.

Guardian Wm. Archer, who has had charge of this district up to nearly the close of the year, reports that the catch of fish was about the same as in the previous year. The whitefish catch was a little larger. He reports the close season as being well observed, except that the Indians fished under special permit from the department. There are three bands of Indians, and they comprise the greater portion of the fishermen in this district. There were 87 men engaged in fishing during the year, of whom 25 were licensed fishermen. They operated 80 small skiffs and canoes, valued at $800, and used 5,000 fathoms of gill-net, valued at $500.

He estimates the catch for the year to be as follows :—

	Lbs.	Value.
Whitefish	235,000	$ 7,050 00
Pickerel	30,525	610 70
Pike	22,300	223 00
Mixed fish	326,100	3,226 00
	613,935	$11,144 70

The whole of this catch was used for home consumption, except 43,000 lbs. of whitefish and 10,835 lbs. of pickerel, which were sold to the trade.

WATER HEN RIVER, LAKE WINNIPEGOSIS.

Guardian J. H. Adam submits his report and tabular statement on the fisheries in his district. His report is not as full and complete as usual, he having been prevented from visiting a number of places in his district owing to serious illness in his family. He, however, states that all kinds of fish were found in abundance by fishermen, and Lake Winnipegosis gives great promise for the future. The catch and sale of whitefish was not as large as last year, owing to the extension of the close season, which has lessened the catch in his district this year. The Indians were permitted to fish for a few days at the beginning of the close season, as they were dependent on the fish they caught for a livelihood. The close season, with this exception, was strictly observed.

The number of men employed in fishing were 100, of whom 39 were licensed fishermen. There were 72 small boats and canoes, valued at $720, used in fishing. The quantity of gill nets used was 7,900 fathoms, valued at $1,152. He reports the catch of all kinds of fish during the past year to be as follows :—

	Lbs.	Value.
Whitefish	241,000	$ 4,820 00
Pickerel	44,000	880 00
Pike	82,500	412 50
Mixed fish	445,000	4,450 00
	812,500	$10,562 50

Of this quantity, 90,000 lbs. of whitefish, 20,000 lbs. of pickerel, and 30,000 lbs. of pike were sold to the trade.

FORT ALEXANDER, LAKE WINNIPEG.

Guardian J. Wood, who has charge of the east side of Lake Winnipeg, from the Red River to Loon Straits, reports fish as plentiful as usual, and the catch would have been much greater had the close season not been changed. He reports that no commercial licenses were issued in his district. There are five bands of Indians in the district, the members of which were allowed to fish for their own use with permits from the department. The fishery regulations were fairly well observed during the year, except that three men whom he found fishing during the close season were find $5 each. He also reports having confiscated and destroyed several gill-nets whose owners could not be found. There are two saw-mills in the district, neither of which have been operated for over a year, but the refuse keeps falling into the Bad Throat River, upon which they are situated. He has had considerable trouble in keeping it out of the stream. The catch of fish for the year was as follows :—

	Lbs.	Value.
Whitefish	110,800	$ 4,432 00
Pickerel	79,950	2,798 00
Pike	41,900	419 00
Sturgeon	43,000	2,150 00
Tullibee	85,000	850 00
Mixed fish	90,050	1,801 00
	450,700	$12,450 00

The number of men employed was 102, who operated 102 skiffs and canoes, valued at $1,102. They used 6,960 fathoms of gill net, valued at $604.

GIMLI DISTRICT, LAKE WINNIPEG.

Guardian Stefan Jonsson, who was in charge of this district up to the 1st of December, when he was succeeded by a new guardian, Wm. Hughes, reports fishing good during the year in his locality. The catch of whitefish was not as large as in previous years, owing to the extension of the close season, but this species of fish, he states, was more abundant than in the three previous years. The best time for winter fishing here is from the end of the close season till the 1st of January, as the fish then disappear into deep water, and the fishermen are not able to follow them, as the ice gets so thick that it is almost impossible to set nets. He reports pickerel very plentiful during the season, and that fishermen were devoting more attention to them, as there was a good demand and better prices for them than ever before. Pike were also very plentiful, but not being marketable were principally used for home consumption. Tullibee were scarce. Subjoined is a summary of the catch in his district :—

	Lbs.	Value.
Whitefish	75,000	$ 3,000 00
Pickerel	46,820	1,628 70
Pike	11,000	110 00
Tullibee	65,000	650 00
Mixed fish	65,000	1,300 00
	262,820	$6,688 70

In this district there were sold to the trade the following quantity of fish :—

	Lbs.	Value.
Whitefish	73,800	$2,952 00
Pickerel	40,820	1,428 70
Pike	4,700	47 00
Tullibee	40,820	408 20
	160,140	$4,835 90

There were 57 men engaged in fishing during the year, operating 24 skiffs, valued at $196. They used 8,690 fathoms of gill-net, valued at $857.

BEREN'S RIVER, LAKE WINNIPEG.

Guardian J. B. Johnson, who has charge of both sides of the lake, in the Beren's River district, reports all kinds of fish very abundant during the year, particularly the inferior class of fish which afforded a good source of supply for food. The whitefish in the fall, however, show a slight falling off of the catch in some parts. At Mossy Point, Beren's River and Pigeon River it is below that of the previous year; but at Beaver Creek and Split Rock Creek compares favourably with that of last year. At Rabbit Point and Fisher River the catch was not so large, but this is accounted for from the fact that the Indians found employment from lumbermen at the former place, and, therefore, were not obliged to fish as much as in former years. Winter fishing at Beren's River this year was better than it has been for some years previous, and the same may be said of Rabbit Point; while at Bull's Head and Humbug Bay they were rather scarce. He reports some dissatisfaction among the settlers owing to the length of the close season for whitefish, which deprives them of fifteen days of the best time for winter fishing. He further reports sturgeon as being very abundant, and recommends the advisability of putting the close season on this species of fish back to the old dates, from the 1st of May to the 15th of June, as the gradual falling off of whitefish in places frequented by sturgeon is due more to the depredations committed by this voracious fish, than to any other cause. He summarizes the catch in his district as follows :—

	Lbs.	Value.
Whitefish	271,300	$9,495 50
Pickerel	78,500	1,962 50
Pike	7,500	75 00
Sturgeon	48,000	1,680 00
Mixed fish	195,000	1,950 00
	600,300	$15,163 00

This statement does not include the catch of the commercial fishermen who operate in his district during the summer months. Of the above quantity 62,500 lbs. of whitefish and 78,500 lbs. of pickerel were sold to the trade, the remainder together with the sturgeon, pike and mixed fish were used for home consumption. The number of men employed in domestic fishing during the year was 87; 27 boats were used during the summer and fall, valued at $270. There were 8,760 fathoms of gill net used, valued at $876.

CONCLUSION.

A summary of the entire catch shows an increase of 585,557 lbs. over that of the previous year, and this increase is altogether in whitefish, caught chiefly by the commercial fishermen in Lake Winnipeg, where that species of fish was unusually plentiful last summer. There was a slight falling off in the catch of coarse fish under domestic licenses, caused by the lengthening of the close season, and the prohibiting in the early part thereof, of all kinds of fishing during that period. The recapitulation hereunder, gives not only the catch referred to in this supplementary report, but also that contained in the first report sent to the department in October last.

RECAPITULATION of the Yield and Value of Fisheries in Manitoba.

	Lbs.	Value.
Whitefish	4,354,013	$239,470 72
Pickerel	592,593	23,703 72
Pike	433,895	8,677 90
Sturgeon	93,090	4,654 50
Tullibee	161,800	3,236 00
Mixed fish	1,496,200	14,962 00
	7,131,591	$294,704 84

I have the honour to be, sir, your obedient servant,

ALEX. McQUEEN,
Inspector of Fisheries.

RETURN of the Number and Value of Vessels, Boats and Fishing Material, the Number from **Lake Winnipeg** to **Lake Winnipegosis,**

DISTRICT.	VESSELS AND BOATS EMPLOYED.								
	Vessels or Tugs.				Boats.			Gill Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.
			$			$			$
St. Laurent and Shoal Lake	....	....	.....	....	....	....	80	10000	990
The Narrows and Ebb and Flow Lake to Sandy Bay	....	....	...	....	33	561	68	4274	427
Lake St. Martin and Fairford River to Steep Rock	....	....	....	....	80	800	87	5000	500
Water Hen River, Lakes Dauphin and Winnipegosis	....	....	.....	....	72	720	100	7900	1152
Mouth of Red River to Loon Straits	....	....	.	....	102	1102	102	6900	604
Gimli District to Grindstone Point	....	....	...	....	24	196	57	8690	857
Berens and Fisher Rivers to Bull Head	....	....	.	....	57	830	87	8760	876
Red River, Sturgeon Bay, Berens, Reindeer and Selkirk Islands	7	193	36000	35	30	6475	134	45000	6540
Totals	7	193	36000	35	398	10684	715	96524	11946

N.B.—Particulars regarding Berens River District, &c., will be found in my report of 4th

of Men employed, &c., with the Kinds and Quantities of Fish, in the District extending in Manitoba, for the Year 1892.

Fishing Materials.						Kinds of Fish.						Value.
Seines.		Pound Nets.		Hoop Nets		Whitefish, lbs.	Pickerel or Doré, lbs.	Pike, lbs.	Sturgeon, lbs.	Tullibee, lbs.	Mixed fish, lbs.	
Fathoms.	Value.	No.	Value.	No.	Value.							
	$		$		$							$ cts.
....	....	....	....	....	....	65400	98900	197500	.....	9700	52500	12,222 00
....	....	....	....	....	.....	46015	6350	50135	.....	2100	156300	5,392 53
....	....	....	....	....	.....	235000	30535	22300	.....	.....	326100	17,853 40
....	....	....	....	....	.....	241000	44000	82500	.....	.....	445000	21,115 00
....	....	....	.....	....	.....	110800	79950	41900	43000	85000	90050	14,880 50
....	....	....	....	....	.....	75000	46820	11000	.....	65000	65000	8,167 80
....	....	....	.....	....	.....	271300	78500	7500	48000	.....	195000	22,561 50
120	150	2	1000	....	.....	3309498	207538	21060	2090	.....	166250	192,512 11
120	150	2	1000	....	.....	4354013	592593	433895	93090	161800	1496200	294,704 84

October, 1892.

NORTH-WEST TERRITORIES.

FORT QU'APPELLE, ASSA., 31st December, 1892

Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I have the honour to submit a synopsis of the reports of the different overseers and guardians, which, owing to the fact of their not coming in in time, could not be appended to the advance report. The returns are necessarily incomplete, and at best are only approximate; but great care has been taken not to exceed the actual catch. You will doubtless observe that in many cases no return is made other than of whitefish; but it was found to be impossible to make an estimate at all approaching accuracy with the means at present at our disposal; so that many tons of fish caught, such as lake trout, tullibee, pike, pickerel, gold-eyes, sturgeon, etc., do not appear in the returns. For obvious reasons no return is made of the catch in southern Alberta, which consists principally of river and mountain trout.

PRINCE ALBERT DISTRICT.

Acting Fishery Overseer R. S. Cook, who resides in Prince Albert, reports a very marked improvement in the observance of the fishery regulations in the settled portions of the district; but there has been no attempt made by the different bands of Indians to observe the close seasons.

Owing to the great depth of snow this winter, very little fishing will be done by fishermen from the settlements, as the trails are impassable.

Eight "domestic licenses" and thirty-two free permits were issued during the year; three nets were seized and destroyed, one fine imposed and the fish confiscated.

The resident population north of the North Saskatchewan River is about five thousand, and these people, together with their train dogs, are largely, and in many cases wholly, dependent on fish for a livelihood, the daily ration of whitefish being as follows: four fish to each man two to each woman, one to each child, and two to each dog. This will give some idea of the enormous consumption of fish; but nature seems to have anticipated the wants of these poor people by placing an almost unlimited supply of good fish in the thousands of beautiful lakes scattered throughout this vast territory, comprising about 40,000 square miles. Although a good deal of fishing is done yearly by fishermen from the different settlements south of the river, no export trade has been opened up in fresh, dried, or salted fish. Attached hereto is an estimate of the catch of all kinds of fish during the past year, but owing to the vast extent of the district, and the unreliable sources of information it cannot be relied upon.

BATTLEFORD DISTRICT.

Special Guardian H. Richardson, who lives in Battleford, reports that Jackfish Lake contains whitefish, tullibee, pike, pickerel and suckers; but most of the whitefish have been caught out. Turtle Lake has the same kinds of fish; but the whitefish are more plentiful than in Jackfish Lake, and of better quality. Cold Lake, the finest sheet of water in the district, beside the ordinary kinds of fish, contains large fine lake trout. Guardian Richardson gives the following estimate as the catch of whitefish for the past season, but gives no return of other fish:—

	Lbs.	Value.
Jackfish Lake, whitefish	40,000	$2,200 00
Turtle Lake "	80,000	4,400 00
	120,000	$6,600 00

LAC LA BICHE DISTRICT.

Fishery Overseer John Ross, who is Indian agent at Saddle Lake, reports that the principal part of the fishing was done before the close season commenced, and that the catch was better than last year. At Lac la Biche the principal fishing was done by Half-breeds and enfranchised Indians; by Treaty Indians in the other lakes named. He gives the following as an approximate estimate of the amount of fish caught—whitefish only:—

	Lbs.	Value.
Beaver and neighbouring lakes	51,000	$ 2,805 00
Whitefish and Goodfish Lakes	6,000	330 00
Floating Stone and Pine Butte Lakes	6,000	330 00
Saddle Lake	2,100	115 50
Lac la Biche (return received from other sources)	150,000	7,500 00
Total	215,100	$11,080 50

EDMONTON DISTRICT.

Acting Overseer A. E. Johnston resigned, as he was leaving for the east, and the district is now without a regular officer. The following is an estimate of the catch of whitefish, which were taken almost exclusively by Indians and Half-breeds:—

	Lbs.	Value.
Lac Ste. Anne	70,000	$ 3,850 00
White Whale Lake	120,000	6,600 00
Total	190,000	$10,450 00

PIGEON LAKE.

Guardian Donald Whitford, who resides at Hollbroke, Alta., reports the fish in Pigeon Lake less plentiful than in former years; and he believes the cause to be fishing during the spawning season. The following is his estimate of the number of whitefish killed during 1892:—

	Lbs.	Value.
By Indians	36,000	$1,980 00
By Whites and Half-breeds	84,000	4,620 00
Total	120,000	$6,600 00

EAGLE QUILL LAKE.

Guardian W. G. Knight, of Swift Current, Assa., reports that in 1890 a number of Half-breeds took about 10 tons of whitefish, nearly all of which were killed in November and December (the spawning season). In 1891 they killed about 7 tons. No fishing whatever has been done this season (1892). Three years ago whitefish up to 3¼ lbs. weight were not at all uncommon, in fact the majority for the market would run from 2 to 3¼ lbs. in weight. Last year the great majority of the fish weighed from 1 to 1¼ pounds each, the Half-breeds complaining "it hardly paid for the trouble of catching." Without doubt the lake is being rapidly depleted of fish from the reckless way in which they have been destroyed. The lake is about five miles long by one mile wide.

LONG LAKE DISTRICT.

Overseer John Foster, Silton P. O., Assa., reports that the fishing season for 1892 opened exceptionally good, the catch for the first six weeks being very large. During the month of February it fell off, but after that month it improved, and continued good until the ice broke up in April. "From observation I have made this year I am more convinced than ever that the whitefish in Long Lake are spawning up to the 1st January, and that to protect the fish the close season should be extended to that date." The catch for the season is as under:—

	Lbs.	Value.
Whitefish	18,000	$900 00
Pickerel	5,000	150 00
Pike	15,000	450 00
Mixed fish	8,000	80 00
Total	46,000	$1,580 00

Total Indian catch	Lbs. 22,000	
Number of gill-nets used, 96 " seine-nets used, 1		$430 00

The summer fishing is not carried on so extensively by either whites or Indians as the winter fishing. During the year one person was fined and forfeited his license, and another had his net confiscated for infraction of the fishery laws.

QU'APPELLE LAKES.

Guardian John Leader, jr., who lives on the north shore of Wyosung Lake, reports that he has fished a number of years in the Qu'Appelle Lakes, and has had a good opportunity to know what state and condition the lakes are in. Six years ago the whitefish were numerous in Lakes Wyosung and Pasquia, at present it is a rare thing to catch a half dozen of these fish. The Indians on Pasquia, Muscowpetung and Sioux Reserves have been in the habit of fishing throughout the whole year in these two lakes, and they have almost depleted them of whitefish. There is a good supply of tullibee still left, and they are larger and better fish than in any of the other lakes. Pike, pickerel, perch, suckers and buffalo fish are still plentiful. The catch in Qu'Appelle Lake this year was about the same as last. On the 25th July, he saw taken at one time nine small whitefish, all about the same size; they would weigh about one and a half pounds each, and on several other occasions he saw three or four taken at one time, he never saw so many small young whitefish taken in the lakes before. He is of the opinion that it is the result of the close season, and that the whitefish are on the increase. Tullibee, pike, pickerel, &c., are plentiful. Mission Lake has been fished out by Half-breeds and Indians from the File Hills Reserve. Katepwe Lake has a good supply of tullibee, pike, pickerel and perch, and a fair amount of whitefish. He finds it difficult to obtain any information in regard to the fisheries from the Half-breeds, owing to their reluctance to give it. He says that almost all the fishermen complain that the close season is too long. They claim it commences one month too soon. The reason they make this claim is because the whitefish and tullibee come in on the shoals about the 1st October, and are easily caught. The fish are then looking around for a place to spawn, and are very stupid, and he thinks it is the very time of the year when they should be protected. It is owing to the enforcement of the close seasons that there are any whitefish left in these lakes.

There has always been an abundant supply of pike and pickerel in the river every spring.

He gives the following as an estimate of the catch :—

	Lbs.	Value.
Whitefish	4,000	$240 00
Tullibee	10,000	400 00
Pike	6,000	120 00
Pickerel	3,000	60 00
Indian catch	68,800	1,376 00
Total	91,800	$2,136 00

The cause of the great falling off in this year's catch was the rigid enforcement of the license clause, and the stopping of the Indians fishing in close season. Several nets belonging to Indians and half-breeds were seized and confiscated for infractions of the regulations, but no prosecutions were laid, owing to the poverty of the offenders.

CROOKED LAKE.

Guardian Harry Sayer reports no fishing done in Crooked Lake during the close season. He reports the whitefish practically extinct. He places the Indian catch of

all kinds of fish at 20,000 lbs., value $400; and the catch by whites as about the same; or a total of 40,000 lbs., value $800.

ROUND LAKE.

Guardian Jos. Taillefer reports that there has been no netting in Round Lake since his appointment (July last), except one net set by an Indian, which he seized and destroyed, it being under the legal size of mesh. He makes no mention of whitefish; evidently they are a thing of the past. The pickerel (doré) are nearly extinct, and only pike and suckers are caught. The amount taken is estimated at 5,000 lbs., valued at $100.

The estimated catch by Indians and settlers in Fishing Lake, north-east of the Big Touchwood Hills, is 10,000 lbs., value $200.

Lakes in the White Sand River country:—

	Lbs.	Value.
Pike	100,000	$2,000 00
Suckers	40,000	400 00
Total	140,000	$2,400 00

On the 13th December last I visited Long Lake, and between the 15th and 18th of that month I saw caught and examined over 150 whitefish, 72 of which I opened and examined very carefully, and found that not one of them had got completely rid of its ova, and the majority of them had not more than begun to spawn, and a number had not yet become ripe. I, therefore, refused to grant licenses for this lake till the 1st January, by which time nearly all the whitefish were spent.

I have the honour to be, sir,

Your obedient servant,

F. C. GILCHRIST,

Inspector of Fisheries.

FISHERY STATISTICS in the North-west Territories.

——	Number of Population.	Whitefish.	Trout, Pike, &c.	Sturgeon.	Gold-eyes, Suckers, &c.
Cumberland District	2,700	2,188,000	1,094,000		
Montreal and Lac la Rouge	500	180,000	90,000		
Sturgeon Lake	250	1,666	833		
Green and Assiniboine Lakes	600	166,666	83,333		
Isle à la Crosse	250	120,000	60,000		
Snake Plain	400	26,666	13,333		
Prince Albert District					
North and South Saskatchewan			600	2,860	4,000
Population	4,700				
No. of fish		2,682,998	1,342,099	2,860	4,000
Lbs		10,731,992	8,052,594	34,320	4,000
Value		$590,259.56	$161,051.88	$1,029.60	$40.00

Total weight of fish of all kinds ..... 18,822,906 lbs.
" value " " ..... $ 752,381.04

RECAPITULATION of the Fisheries in the North-west Territories.

Kinds of Fish.		Quantity.	Value.
			$
Whitefish	Lbs.	11,435,092	626,200 06
Tullibee	"	10,000	300 00
Pike	"	8,228,594	164,571 88
Pickerel	"	8,000	240 00
Sturgeon	"	34,320	1,029 60
Suckers, gold-eyes, &c	"	120,800	1,208 00
Totals		19,836,806	793,549 54

RECAPITULATION

OF the Yield and Value of the Fisheries of **Manitoba** and **North-west Territories**, for the Year 1892.

Kinds of Fish.		Quantity.	Value.
			$
Whitefish	Lbs.	15,789,105	865,670 78
Pickerel	"	600,593	23,943 72
Pike	"	8,662,489	173,249 78
Sturgeon	"	127,410	5,684 10
Tullibee	"	171,800	3,536 00
Mixed fish	"	1,617,000	16,170 00
Totals			1,088,254 38

APPENDIX F.

BRITISH COLUMBIA.

ANNUAL REPORT ON THE FISHERIES OF BRITISH COLUMBIA FOR THE YEAR 1892, BY INSPECTOR JOHN McNAB.

New Westminster, B.C., 31st December, 1892.

Hon. Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I had the honour, on the 27th of October last, to transmit an advance report of the general results of the fisheries of British Columbia for the season of 1892, up to that date, and I now beg leave to submit my annual statistical report for the year, with tabulated statements of yield and value, and a synopsis of the reports of local guardians

During the season I issued licenses for 1,275 boats and gill-nets for salmon fishing, as follows :—

To canners on the Fraser River	417	boats and gill-nets.
To fishermen "	270	"
To fresh fish dealers "	25	"
To farmers "	8	"
To fish in Howe Sound	1	"
Northern coast and rivers—		
To cannerymen	422	"
To fishermen	132	"
	1,275	

In addition to the above, I also issued licenses for nine seines, and one license giving an exclusive privilege to fish for salmon for commercial purposes, in the Nimpkish River.

The fishery regulations were well observed, and gave general satisfaction to both fishermen and canners.

The season having been what is known here as an "off year" for sockeye salmon in the Fraser River, which, it is claimed, occurs every fourth year, the pack, as was anticipated by the canners, was small, but the returns show an increase of 599,984 cans over the last "off year"—1888—and the quantity of salmon handled fresh by dealers this season is 323,156 lbs. in excess of that of last year.

Notwithstanding the large decrease in the salmon pack of the Fraser River, the fisheries of the province generally—omitting the fur-seal catch—have increased in value $33,947 over last year's catch.

Total value, omitting fur-seal skins r 1892	$2,246,777 64
do do 1891	2,213,830 00
Increase, 1892	$ 33,947 64

The catch of fur-seal skins is 6,633 less than that of last year.

Total catch of Canadian fleet in 1891	52,995 skins at $13	$ 688,935 00
do do 1892	46,362 "	602,706 00
Decrease, 1892	6,633	$ 86,229 00

Marine and Fisheries.

The capital invested in the various branches of the fishing industry of British Columbia in 1892 exceeds that of 1891 by $77,332, or, if we add the value of the 250 canoes used by hunters on the sealing vessels at $60 each, the amount is increased to $92,332, which is accounted for by the erection of two new canneries, and by additions made to the sealing fleet.

Total capital invested, 1892	$ 1,771,352 00
" 1891	1,679,020 00
Increase, 1892	$ 92,332 00

The number of hands employed in fishing, canning and sealing during the season are as follow :—

Total number of hands employed, season of 1891	8,666
" " 1892	8,170
Decrease, 1892	496

A.

SCHEDULE of Salmon Canneries operated in **British Columbia** during the Season of 1892.

Owner or Agent.	Name of Cannery.	Year first Operated.	Number of Boats.	Number of Hands.	Pack in 1-lb. Cans. 1891.	1892.
Fraser River.						
n Accord Fishing Co.	Bon Accord	1879	15	176	339,520	884,480
	Sea Island	1890	12	.....	375,520	
H. Todd & Son	Beaver	1890	20	140	623,280	364,800
	Richmond	1889	20	220	580,460	244,800
en & Co.	Ewen, No. 1	1876	20	270	1,200,000	384,000
	do No. 2	1891	10	.....		
E. Harlock & Co	Harlock	1882	20	210	273,456	200,064
C. Canning Co. (London)	Fraser River Cannery	1876	20	150	384,000	36,400
E. Ladner & Co.	Delta	1887	20	160	325,008	204,000
	Sapperton	1878	20	150	375,552	192,800
	Wellington	1880	20	160	349,200	288,000
	Laidlaw's	1881	20	160	.....	180,000
	Wadhams	1887	20	117	565,920	1,532,208
	British Columbia	1887	20	163	383,264	
	British American	1887	20	118	201,168	
iglo-British Columbia Packing Co. (Limited), Bell, Irving and Paterson, agents	Canoe Pass	1889	20	118	193,440	
	Phœnix	1887	20	...	375,552	
	Britannic	1890	20	.....	316,560	
	Garry Point	1889	20	.....	383,296	
	Annandale	1891	20	117	9,600	
	Dumfries	1891	20	.....	240,000	
rra Nova Packing Co	Terra Nova	1892	20	145	.....	216,000
Naas River.						
C. Canning Co.	B. C. Cannery	1889	30	140	123,880	352,800
J. McLellan	McLellan's Cannery	1888	46	185	262,896	540,000
idlaw & Co	Cascade	1889	30	120	144,000	360,000
Skeena River.						
C. Canning Co.	Windsor	1878	27	175	465,000	540,000
B. Columbia Pac. Co.	North Pacific	1889	22	203	537,000	540,000
	British American	1883	27	206	655,632	540,000
rner, Beeton & Co.	Inverness	1878	24	170	474,000	540,000
rnes & Co.	Balmoral	1886	20	170	480,000	540,000
nningham & Son.	Skeena Cannery	1883	28	142	566,400	540,000
idlaw & Co	Standard	1890	26	175	519,504	540,000
alby & Claxton	Royal Canadian	1892	21	170	.....	576,000
Rivers Inlet.						
C. Canning Co	Rivers Inlet Cannery	1882	20	168	720,000	264,000
	Victoria	1882	34	220	480,000	230,400
Rithet & Co	Warnoch	1884	30	200	552,000	223,440
Lowe's Inlet.						
nningham & Rood	Lowe's Inlet Cannery	1890	8	78	386,736	390,000
Gardner's Inlet.						
Price & Co	Price's Cannery	1890	19	41	152,600	288,000
Alert Bay.						
lert Bay Canning Co	Alert Bay Cannery	1881	8	40	31,200	206,400
	Total Coast					7,211,040
	Total Fraser River					4,277,552
	Grand total					11,488,592

B. — Returns showing the Number of Boats, Vessels and Men engaged in the Marine Fur Fishery, with Products and Values, for the Season of 1892.

Names of Vessels.	Tonnage.	Value of Vessels.	Number of Men.		No. of Canoes.	No. of Boats.	Value of Boats.	Catch.			Total Number.	Value.	Remarks.
			Whites.	Indians.				Coast.	Sand Point.	Asiatic.			
		$					$					$ cts.	
Annie E. Paint	82	9,500	20			5	500	186	412	421	1,019		
Ainoko	75	7,500	6	24	12	2	200	21	719		740		
Aurora	41	5,000	4	20	10	1	100	7	371		378		
Annie C. Moore	113	10,000	23			6	600	164	379	447	990		
Ariel	91	5,000	7	23	14	2	200		268		268		
Ariel	74	10,000	24			7	700						Seized.
Arietes	86	8,000	24			7	700		418	738	1,156		
Agnes McDonald	107	9,000	24			7	700		591	373	964		
Beatrice	66	6,600	5	20	10	1	100	115	455		570		
Beatrice (Vancouver)	49	7,000	15			5	500		678		678		
Borealis	37	8,000	5	20	10	1	100	21	486		507		
Brenda	100	10,000	26			7	700		409	512	921		
Carlotta G. Cox	76	10,000	23			6	600	436	1,605	696	2,737		
C. H. Tupper	92	12,000	24			6	600	308	967	542	1,817		
Carmolite	99	10,000	23			6	600	174	705		879		do
C. D. Rand	51	10,100	12	28	6	2	200	28			28		do
Cape Beal	12	5,000		12	6			27			27		
Dord Sieward	94	11,000	25			8	800		224	673	897		
E. B. Marvin	117	10,000	22			6	600	183	1,432	430	2,045		
Enterprise	69	10,000	23			7	700			507	507		
Favourite	80	6,000	6	24	12	2	200		450	202	652		
Fawn	59	7,500	6	20	10	3	300		480		480		
Geneva	93	9,700	26			7	700	270	420	600	1,290		
Henrietta	31	3,000	4	10	5	2	200	44	108		152		do
Katherine	81	4,000	4	28	14	2	200	27	406		433		
Kate	58	4,500	5	24	12	2	200		270		270		
Lottie	19	1,500	4	4	2	2	200						Wrecked.
Laura	19	2,200	4	16	8	1	100						do
Mascot	40	4,500	17			4	400	107	220	119	446		
Maud S	97	6,000	24			6	600	185	769	748	1,702		
Mary Taylor	42	4,000	18			4	400	135	807		942		
May Belle	58	7,000	5	20	10	2	200	149	145	230	524		
Mischief (steamer)	48	7,500	5	20	10	2	200	26	635		661		
Mary Ellen	63	6,000	5	28	14	3	300	35	507	304	846		
Mermaid	73	7,100	19			6	600		164	238	402		
Mountain Chief	23	900	4	12	6	1	100		137		137		Seized.
Ocean Belle	83	8,300	20			6	600	128	687	646	1,461		
Oscar and Hattie	81	9,500	23			6	600	25	186	261	472		

Pioneer	66	7,000	20			5	500	100	329		427			
Penelope	70	11,000	21			5	500	345		1,362	1,707			
Rosie Olsen	39	5,000	6	20	10	1	100							do
Sea Lion	50	7,000	19			5	500	472	629	883	1,934			
Sapphire	124	10,000	7	32	16	2	200		970		970			
Sadie Turpel	56	10,000	22			6	600		451	244	695			
Teresa	63	6,000	23			6	600	83	306	176	565			
Thistle (steamer)	147	23,000	15			6	600	79		4	83			
Triumph	98	10,000	7	32	16	2	200		204	257	541			
Umbrina	98	10,000	23			6	600	143	707	623	1,473			
Viva	92	9,200	25			6	600	193	1,555		1,748			
Venture	48	5,000	4	16	8	2	200	5	160		165			
Vancouver Belle	73	16,500	20			8	800							
Victoria	63	9,500	22			6	600	23		558	581			
W. P. Sayward	59	6,000	19			5	500	180	900		1,080			
W. A. Earle	68	8,000	22			6	600	100	1,225	541	1,866			
Winifred	13	1,400	6	12	6	2	200		100		100			do
Labrador	25	4,500	11			4	400	50	225		275			
Libbie	93	10,000	23			7	700		39		39			
Maria	94	9,000	21			6	600							do
Maggie Mc	71	10,000	23			6	600							Wrecked.
Minnie	49	6,000	4	20	10	2	200		500		500			
Walter L. Rich	76	10,000	19			5	500		182	204	386			
Willie McGowan	115	10,000	23			7	700		93		93			
W. P. Hall	99	9,000	20			7	700			416	416			
Wanderer	25	3,000	3	10	5	1	100		137		137			
Minnie	10	1,000	3			2	200	5			5			
	4,456	513,000	961	511	250	281	28,100	6,892	24,665	14,805	46,362	602,706 00		

PROTECTION OF FISHERIES.

The fishery protection service during the season was efficient, and the guardians performed their duties in a satisfactory manner. The number of special guardians employed has been sufficient, except in the Skeena River district, where two active officers are necessary during the fishing season, if the weekly close time is to be as strictly enforced as its importance demands.

On the Fraser River a more suitable steam launch is absolutely necessary, in order that the inspector may have it within his power to have the requirements of the "Fisheries Act" and the regulations of the department duly enforced. Many boats of a larger and more seaworthy class than formerly used are being employed in salmon fishing. These boats fish far outside the river, and in all weather. It is impossible for a guardian to reach them in a row-boat, and the present launch, not being fitted with condensers of sufficient power, cannot cruise in salt water. A boat is required in which Howe Sound and the creeks and inlets in the vicinity of the Seechelt peninsula can be visited occasionally, as salmon fisheries are being established at places which cannot be reached at present by an officer by any available method. The knowledge that a boat is employed by the department which may visit them at any hour tends materially to ensure compliance with the requirements of the law.

REPORTS OF THE FISHERY GUARDIANS IN BRITISH COLUMBIA.

Guardian C. H. Green reports as follows:—As I was not appointed till the latter end of June, I am unable to give you any report about the run of spring salmon, but from what I saw of the sockeye salmon run, I am decidedly of opinion that, for a poor season, the run was much better than the corresponding year 1888, although I think the fish were later in entering the river than usual.

The effect of throwing the Fraser River open to all British subjects and making the number of licenses unlimited has been that quite an increased number of boats were fishing this year, than for the last four years preceding, and in view of next season being one of large runs on Fraser River, and also that in this district there will be at least six new canneries in running order next year, making in all 20 canneries, I calculate that there will be about 900 boats fishing in this district. I think it will be to the interest of the department to supply the guardian here with a steam launch to enable him to get about quickly to prevent infraction of the laws on the river, and also, if the offal has to be kept out of the river, to enable him to visit each cannery at least once a day to see the regulations carried out.

I might also state that quite a number of cases of infractions of the regulations were reported to me both during the spring and fall runs, and were also seen by myself, but having no authority to deal with them, I presume they were allowed to go by default, as there was only one guardian employed on the whole river during the whole season, it is impossible for him to attend to all the work.

In conclusion, I would respectfully suggest that the season for the "sockeye" salmon should close not later than the 25th August, and that the "cohoe" season should commence on the 15th September as formerly, as I am of opinion that, in future, the "cohoes" will have to be utilized to make up the pack, while there are so many canneries on the river.

Fishery Guardian H. McDonald, of the North Arm of Fraser River, reports that the law was well observed in his district, and that he had no violations to deal with.

Guardian C. D. Grant reports that, on the Fraser River, the regulations of the department were generally well observed; that he patrolled the river daily in the steam launch and found but three violations of law, and that in each case fines were imposed.

He also states that, in his opinion, the time has arrived when in order to enforce the fishery regulations the service of a steamer of sufficient power and fitted for salt water cruising has become a necessity, as boats of a larger class than formerly employed are being prepared to fish outside of the river and off the adjacent coast.

Guardian Thos. McNeish, of the Skeena River district, submits the following report:—

I reached the Skeena *via* Victoria on the 6th May, and found a number of boats fishing for spring salmon for salting, smoking and home consumption. Although the canneries did not commence operations until the 15th June, owing to an agreement among themselves to that effect, the season was a very successful one. The canneries without exception put up a pack which reached the limit to which they had bound themselves, viz., 11,250 cases each. The regulations of the department were fairly well observed, although it was found necessary to impose ten fines on cannery and saw-mill managers. It is quite impossible for one officer, in a row boat, to guard the 45 miles of fishing ground on the Skeena, without taking Granville channel into consideration. I beg, therefore, to recommend that during the canning season in future two guardians be employed in the Skeena district, as it is of great importance that the weekly close time be strictly enforced; in my opinion the future supply of salmon depends largely upon this being done, and in order that it may be observed the presence of guardians is necessary.

Guardian F. S. Spain, from the Naas, reported verbally, on his return, that the season's catch of salmon was an average one; that the fishery regulations had been well observed, and that no violations of the law had occurred.

Guardian Wm. Roxburgh, of Rivers Inlet, reports that the fishery regulations were well observed at Rivers Inlet, and that although the catch of salmon was light when compared with last year's catch, it is not, in his opinion, to be attributed altogether to a scarcity of fish, but partly at least to the excessively heavy rains and cold weather which prevailed throughout the fishing season, and which he thinks caused the salmon to swim deep and pass beneath the nets.

I may here state that Mr. Kirkland, who was manager of a cannery at Rivers Inlet, informed me that several fine shad had been caught at Rivers Inlet in July last, having meshed in salmon nets. As all the shad in the waters of the Pacific have originated from ova planted in the Sacrement River, this shows a migration northward of over 1,000 miles. Several shad were also caught in the north arm of the Fraser River in July.

I have the honour to be, sir,
Your obedient servant,
JOHN McNAB,
Inspector of Fisheries for British Columbia.

C. — Return showing the Number, Tonnage and Value of Vessels and Boats, and the Number of Men engaged in the Fisheries, Quantity and Value of Fishing Material, Kinds and Quantities of Fish, &c., in the Province of **British Columbia**, for the Year 1892.

Locality.	Vessels and Boats employed.							Fishing Material.					Kinds of Fish and Fish Products.				
	Vessels.				Boats.			Gill Nets.		Seines.		Trawl Lines.					
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Value.	Salmon, barrels.	Salmon, fresh, lbs.	Salmon, smoked, lbs.	Salmon, in cans.	Sturgeon, lbs.
			$			$			$		$	$					
Fraser River and South to American Boundary	10	180	4300	21	750	30430	3408	123250	92432	800	1600	725	1015	1527009	50000	4277552	230500
Fraser River to Howe Sound	10	180	4300	21	15	750	50	1500	775	1000	1500	500	105	520000	19300	.....	90000
Howe Sound to Rivers Inlet	3	80	27500	9	133	5280	521	16550	14000	220	600	.....	25	90000	10000	924240	.....
Rivers Inlet to Skeena River	9	282	57000	24	363	14255	1638	102500	76875	450	900	500	638	240000	13200	5034000	.....
Skeena River to Alaska Boundary	2	14	4500	4	121	4390	487	29200	21900	..	..	.....	220	10500	20000	1252800	.....
East Coast of Queen Charlotte Islands	...	.....	.....	....	20	2400	100	2500	2500	250	350	1800	50	1000	2000	.....	.....
West Coast of Queen Charlotte Islands	....	...	.....	....	6	300	20	600	450	200	400	175	.....	.....	..	.....	.....
Cape Scott to Comox	.....	.....	.....	....	10	900	25	300	200	300	450	600	30	25000	5000	.....	.....
Comox to Victoria	51	203	10150	150	45	3000	90	1040	780	4100	8000	4000	60	500000	10000	.....	200000
Victoria to Cape Beale	2	40	1000	6	16	1100	43	500	375	1000	1500	5500	.....	26000	5000	.....	.....
Cape Beale to Cape Scott	....	....	.....	...	6	460	16	500	375	.....	.....	75	205	2000	1000	.....	.....
Totals	77	778	143150	214	1485	63265	6698	278440	210662	3320	15300	13875	2348	2935509	135500	11488592	520500
Canadian fur-seal fleet	66	4456	513000	961	281	28100	..	...	.....	.....	.....	.....	...	.....	.....	.....	.....
Estimate of hair-seal skins not included above	....	..	...	....	.....	.....	...	.....	.....	.....	....	.....	.....	.....	.....	...	.....

C.—Return showing the Number, Tonnage, and Value of Vessels and Boats, &c.—Province of **British Columbia**—*Continued.*

Locality.	Kinds of Fish and Fish Products.																	Value.
	Halibut, lbs.	Herring, lbs.	Herring, salted, barrels	Herring, smoked, lbs.	Oulachons, salted, brls.	Oulachons, fresh, lbs.	Oulachons, smoked, lbs.	Trout, lbs.	Assorted or mixed fish, lbs.	Smelt, lbs.	Rock cod, lbs.	Tooshqua, lbs.	Skill, barrels.	Fur-seal skins, No.	Hair-seal skins, No.	Sea Otter skins, No.	Fish Oil, galls.	$ cts.
Fraser River and South to American Boundary	212000	50000	....	.....	25	32500	15000	10500	8000	11600	5500	2700	..	.....	.....	..	850	719,752 14
Fraser River to Howe Sound	405000	224000	....	.....	...	13000	.....	25000	58000	100000	25000	250000	..	.....	.....	..	10000	122,878 00
Howe Sound to Rivers Inlet	2500	.....	....	.....	125	8000	800	1100	1320	.....	.....	5600	..	.....	300	..	3000	126,109 80
Rivers Inlet to Skeena River	5000	.....	....	.....	125	2000	.....	750	.....	.....	.....	.....	..	.....	2000	..	14000	648,826 00
Skeena River to Alaska Boundary	10000	5000	....	2000	550	60000	2000	700	.....	.....	.....	.....	..	.....	150	..	10500	172,086 00
East Coast of Queen Charlotte Islands	25000	25000	125	3000	....	.....	.....	.....	10000	.....	.....	.....	35	.....	1000	..	60000	36,442 50
West Coast of Queen Charlotte Islands	60000	10000	...	3000	....	.....	.....	.....	60000	.....	.....	.....	60	.....	250	14	10000	14,330 00
Cape Scott to Comox	6000	14000	...	1000	..	.....	.....	10000	25000	15000	93000	100000	..	.....	.....	..	12000	23,430 00
Comox to Victoria	600000	130000	20	12000	50	60000	4000	15000	240000	30000	50000	50000	..	.....	.....	..	30000	139,750 00
Victoria to Cape Beale	26000	2000	....	.....	....	.....	.....	5000	20000	.....	.....	8000	..	.....	.....	..	25000	18,800 00
Cape Beale to Cape Scott	6000	4000	....	.....	....	.....	.....	.....	8000	.....	.....	.....	..	.....	.....	..	80500	44,010 00
Totals	1357500	460000	145	21000	875	175500	21800	68050	430320	156600	173500	416300	95	.....	3700	14	255900	2,067,106 44
Canadian fur seal fleet	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	.....	..	46362	...	..	.....	602,706 00
Estimate of hair-seal skins not included above	.....	.....	....	.....	....	.....	.....	.....	.....	.....	.....	.....	..	.....	3000	..	.....	3,100 00
Oysters, 2,000 sacks at $2 per sack, $4,000; clams, 5,500 sacks at $1.75 per sack, $9,625; mussels, 300 sacks at $1.75 per sack, $525														.....	...	..	.....	14,150 00
Shrimps and prawns, $5,000; crabs, 600,000 at 5c. each, $30,000; abalonies, 3,000 lbs. at 20c., $600; isinglass, 1,500 at 30c., $450														.....	...	..	.....	36,050 00
Oil manufactured from salmon offal on Fraser River, estimated value per gallon 30c														.....	...	..	3654	1,096 20
Fish guano, made from salmon offal on Fraser River, 15 tons, estimated value $25 per ton														.....	...	..	.....	375 00
Estimate of various kinds of fish consumed in the interior of the province but not included in the above														.....	...	..	.....	125,000 00
Grand total														46362	6700	14	259554	2,849,483 64
Fur-seal skins caught by United States vessels and landed in Victoria, B.C.														3381	....	..	.....	43,953 00

D.

COMPARATIVE Statement of the Yield and Value of the Fisheries of **British Columbia,** for the Year 1892.

Kinds of Fish.	Quantity.	Price.	Value.
		$ cts.	$ cts.
Salmon, in 1-lb. cans	11,488,592	0 12	1,378,631 04
" fresh. Lbs.	2,935,509	0 10	293,550 90
" salted Brls.	2,348	12 00	28,176 00
" smoked Lbs.	135,500	0 20	27,100 00
Sturgeon, fresh "	520,500	0 05	26,025 00
Halibut " "	1,357,500	0 05	67,875 00
Herring " "	460,000	0 05	23,000 00
" smoked. "	21,000	0 12	2,520 00
" salted Brls.	145	4 50	652 50
Oulachons, fresh Lbs.	175,500	0 05	8,775 00
" smoked "	21,800	0 15	3,270 00
" salted Brls.	875	8 00	7,000 00
Trout, fresh Lbs.	68,050	0 10	6,805 00
Fish, assorted and mixed "	430,320	0 05	21,516 00
Smelts, fresh. "	156,600	0 05	7,830 00
Rock cod "	173,500	0 05	8,675 00
Tooshqua "	416,300	0 05	20,815 00
Skill, salted Brls.	95	12 00	1,140 00
Fur-seal skins No.	46,362	13 00	602,706 00
Hair " "	6,700	1 00	6,700 00
Sea-otter skins "	14	150 00	2,100 00
Oysters Sacks.	2,000	2 00	4,000 00
Clams "	5,500	1 75	9,625 00
Mussels "	300	1 75	525 00
Crabs No.	600,000	0 05	30,000 00
Abalonies Lbs.	3,000	0 20	600 00
Isinglass "	1,500	0 30	450 00
Shrimps and prawns "	.....	.....	5,000 00
Estimate of fish consumed in the province, and not included in the above enumeration	.....	.....	125,000 00
Fish oil Galls.	259,554	.....	129,046 20
Guano, made from offal Tons.	15	25 00	375 00
			2,849,483 64
Fur-seal skins, caught by United States vessels, and landed in Victoria, B.C. Skins.	3,381	.....	43,953 00

E.

CAPITAL invested in the Fisheries and Fishing Material of **British Columbia**, during the Season of 1892.

Material.	Value.	Total.
	$	$
143 vessels, 5,254 tons	656,150	
1,766 boats	91,365	
278,468 fathoms of gill-net	210,662	
15,300 do seines	15,300	
Trawl lines	13,875	
		987,352
38 salmon canneries, complete	760,000	
12 oil factories	38,000	
2 freezing establishments	18,000	
6 salting stations	3,000	
		819,000
		1,806,352
Season 1891		1,679,520
Increase, 1892		126,832

Sailors and seal hunters—			
Whites	961		
Indians	511		
		1,472	
Fishermen and canners		6,698	
			8,170
250 canoes, employed by sealing vessels			$15,000

APPENDIX G.

ONTARIO.

SYNOPSES OF FISHERY OVERSEERS' REPORTS IN THE PROVINCE OF ONTARIO, FOR THE YEAR 1892.

LAKE SUPERIOR DIVISION.

Overseer D. F. Macdonell, who succeeded Thos. A. Keefer of Port Arthur, states that, as fishermen keep no record of their individual catch, it is with extreme difficulty that he could secure any reliable data as to the yield of fisheries in his district. The decline noticed is not attributable to the scarcity of fish alone, but to the fact that no pound-net fishing was carried on at Thunder Bay, and no fishing at all between Peninsula Harbour and Otter Head. On his visits of inspection he always found the guardians attentive to their duties, and he feels satisfied that the close seasons were well observed. All the nets examined by him were of the regular mesh. There are no saw-mills in his division and consequently it enjoys freedom from the saw-dust nuisance. Mr. Macdonell states that if tags bearing the number of licenses were attached to each pound-net it would greatly assist the officers in detecting illegal ones. This should be compulsory. Fishermen of Lake Superior would welcome the establishment of a fish hatchery there and would furnish the spawn free of charge to assure its success. The value of the fisheries in this part of Lake Superior is computed at $89,595.

Overseer T. H. Elliott has been appointed to take charge of that part of Lake Superior from Otter Head extending to French River on Georgian Bay. He also complains of the difficulty experienced in obtaining any reliable returns of the fishermen's operations.

In the Lake Superior portion of his division, he reports a slight improvement in the yield of salmon-trout and sturgeon, but a decline in that of pickerel and pike.

In the north channel of Lake Huron, part of his district, called the

MANITOULIN ISLAND DIVISION,

Mr. Elliott reports an increase in almost every kind of fish, but especially in pickerel, sturgeon, trout and whitefish; the latter he attributes to a more vigorous prosecution of these fisheries, and to an increase in plant used. A large number of pickerel, pike and bass have been illegally caught in small trap-nets, which are easily lifted by fishermen on their way to or from the gill-net grounds, while others use a few gill-nets as a mere blind.

On the destruction of immature fish, Mr. Elliott says:—

"The catching of small whitefish in pound-nets and seines is one of the greatest evils now existing. These nets being shore machines as it were, and as these small fish follow the shore in schools, large numbers of them are caught. At one station alone this season, 22 tons of these fish (classed as seconds) were handled, and buyers inform me there is no profit in them; but competition is now so keen in buying that fishermen say if you do not buy our small fish, you cannot have the large ones, and buyers are compelled to take them in order to hold their trade. The catching of those immature fish is greatly to be regretted. If fish are caught so young that they cannot spawn or reproduce their species it will soon exhaust the supply. There are very few pound-nets in my division that have meshes of the proper size, and even if they had it would not prevent the catching of those small fish, as fishermen have now too many devices to catch them even if the mesh were of the proper dimension."

The mesh regulation has been tried without effect by Michigan Fish Commissioners. A restriction of limit in size or weight of fish would do more to check the destruction of immature fishes than a regulation fixing the size of mesh. The towing of logs has destroyed many a whitefish feeding ground in Georgian Bay by the loose bark sinking and polluting them.

The larger yield in this division does not necessarily imply that the fish were plentiful. On the contrary, fish are scarcer and it requires more twine to supply the markets. Two men who a few years ago fished 18 boxes of nets of 300 fathoms each, or 5,400 fathoms, this season used 32 boxes, and the twine is now much finer than formerly. This quantity, (9,600 fathoms), is considered an ordinary outfit for a boat in Georgian Bay. Fishermen with small rigs are scarcely able to make a living now, and if fishing is conducted as actively for the next five years, many of them will be compelled to abandon the business. The rough weather during the month of November materially aided the observance of the close season for whitefish and salmon-trout. There was no legal fishing this year in Batchawana Bay, a reliable man patrolled these waters till the 25th of November. It is reported that in past years over 25 tons of whitefish had been taken in this bay every close season. According to Mr. Elliott, the month of November is not well adapted for the close seasons of either salmon-trout or whitefish in those waters, for while the former spawn in the month of October, the latter hardly commences to spawn before the 20th of November. The close season for bass and pickerel is often violated by Indians, who are encouraged in their illegal work by white traders supplying them with nets and buying their fish. Much illegal fishing could be prevented by prohibiting traders to buy fish from unlicensed fishermen or Indians under heavy penalties.

The close season for speckled-trout was also violated both by Indians and white men, the former netting the northern tributaries of Lake Superior to such an extent that they are being depleted of this valuable game fish. Unfortunately they are encouraged by unscrupulous traders who ship them to United States markets with consignments of other fish.

This officer is also in favour of adopting metallic tags to register the number of licensed pound-nets, as well as the numbering or naming of licensed boats on their foresail. This would certainly facilitate the detection of poachers. There are so many tugs now employed in the fishing industry that it becomes almost impossible for an overseer to discover illegal or unlicensed nets, as the fishermen are warned of the approach of officers by these tugs in time to conceal their nets.

On the importance of fish hatcheries, Mr. Elliott says :—"Artificial fish culture has ceased to be thought of by American fishermen, dealers and others as an experiment, as evidences of the repletion of their fishing grounds are now too plainly seen to be denied. There is now a thirty million hatchery at Sault Ste. Marie, Michigan, and they intend increasing its capacity this coming season. There is every facility at this point for a hatchery, and the town council of Sault Ste. Marie have passed resolutions offering a free site and water, should such be established, while fishermen will furnish the spawn free of charge, and Messrs. Ainsworth & Ganley offer their tug on Lake Superior free for the purpose of planting the fry. The large whitefish spawn on the lower Lake Superior division could be easily collected on the Sandy and Parisienne Islands' shoals, as they spawn in from one to three feet of water. The ice freezes to the bottom and destroys a great deal of this spawn. Everything seems to tend to the destruction of the eggs upon the shores from the time it is first deposited until it is hatched, while if the same could be brought to maturity by artifical means, its value to the fisheries in these waters could scarcely be estimated."

Several fines were imposed for illegal fishing and one for violation of the statute respecting saw-dust ; one tug and several pound-nets were confiscated. Several parties are still to be prosecuted for illegal acts.

The saw-dust regulation is being strictly enforced, to the satisfaction of fishermen and sportsmen, as nearly all streams in this division abound with speckled-trout. The value of the fisheries on the lower part of Lake Superior is computed at $71,000, and in the north channel and Manitoulin Island at $323,196, making a grand total for the district under this officer of $394,262.

GEORGIAN BAY DIVISION.

The fisheries of this division are valued at over half a million dollars. Owing to the removal from office of Capt. Dunn before the end of the season, the returns are not as complete as formerly. There were not so many tugs engaged in the business as last year. The catch of whitefish was better but that of trout not so good as that of 1891. Pickerel and herring yielded about an average catch. For want of a steamer, the protection service of Georgian Bay was not as satisfactorily performed as is to be expected next season, when a new cruiser will be put on those waters. However large the quantities given may seem, they are not overestimated, as the returns of one firm at Wiarton, as given by themselves, shows over 2,300,000 lbs. of fish, and another at Collingwood amounting to nearly 3,000,000 lbs.

Overseer John Donaldson states that the fishing season was generally considered good in the vicinity of Collingwood. Fishermen complain that the bark falling off saw-logs shipped to the United States is becoming injurious to fish life. He also complains of the destruction of immature whitefish, weighing about 1½ lbs., caught in pound-nets off Manitoulin Island. They are called No. 2 whitefish, and are worth little in the market. The weather was very stormy after 20th October, which materially aided in the observance of the close season.

Overseer Geo. S. Miller states that whitefish are now very scarce on the western side of Georgian Bay. Most of the fishermen of his division fish on the northern part of the bay, and dispose of their fish there.

LAKE HURON DIVISION.

Overseer H. W. Ball reports an increased catch of fish in that part of the coast under his charge, including ex-Overseer Murray's district. The catch of whitefish and salmon-trout would have been larger but for the storms prevailing at the end of October. These gales, however, had the good effect of preventing the usual illegal fishing along the Bruce peninsula coasts during the close season. The most effective way to check poaching in that locality would be by the patrolling of these grounds with a tug. All dams were examined during the summer, and in none of them were obstructions to the ascent of fish noticed. Some spearing for sturgeon was done at the Sauble. Mr. Ball is of opinion that it is highly time to give some protection to herring during its spawning time, which is generally believed to be the month of November. The returns of this officer at schedule prices amount to $260,755—more than double the product of 1891.

Overseer Hugh McFayden reports a very unfavourable season. The excessive rains during the summer raised the waters of the Saugeen River so high that trout would not bite as usual. Saw-mills were visited during the season, and no violations detected. Two new fish-ways were constructed during the summer, making six in all; they were kept in first-class order. This officer estimates the catch of speckled trout at 40,000 lbs., which he values at 25 cts. per pound, but it has been entered at our schedule prices. This deduction counterbalances other estimates which might be under our schedule rates.

Overseer H. B. Quarry reports an increase in every kind of fish with the exception of sturgeon and pickerel, which he ascribes to light winds in July and August. The improvement noticed in whitefish is attributed to the contributions of fry from hatcheries. In the beginning of the season the whitefish run was of a large size, from 10 to 12 lbs., but afterwards the average fell to about 4 lbs. The total value of these fisheries is computed at $24,747, more than double that of last year.

Overseer J. C. Pollock also returns an increased catch of fish, most noticeable in pickerel. Fishermen of this part of St. Clair River strongly object to a close season being imposed on them while there is no like restriction maintained on the United States side. He states that as many as 200 boats are seen trawling for at least 60 days during the season, yielding an average of 10,000 lbs. per day. To this add about the same quantity by seines on both sides of the river, and the enormous drain upon this fishery for 24 miles of the river is apparent. It is no wonder that the shore catches are

diminishing. Pound-nets should not be allowed near Kettle and Blue Points. The total yield is valued at $10,000, an increase of $4,000 over that of 1891.

LAKE ST. CLAIR UPPER DIVISION.

Overseer Chas. W. Raymond reports a very small catch compared with the previous year, owing to the short time of fishing in the spring and to high water in the streams emptying into the bay. He reports no infractions of the fishery laws, and states that the close seasons were well observed. The result shows a falling off of 66 per cent.

THAMES RIVER.

Overseer T. McQueen states that there were only 20 fishing stations, employing about 80 men, in operation last season. The catch of fish was generally smaller than the previous year. Forty-seven thousand five hundred and fifty-two pounds of pickerel and 90,234 lbs. of coarse fish were taken. Two violations of the close season by licensed fishermen came under his notice, but the parties promptly retracted on being threatened with the cancellation of their licenses. The fishermen of this district are reported as fully realizing the protective measures adopted for the regulation of this branch of industry. They seem to think that the present close season for pickerel and maskinongé is suited to the spawning time of those species.

Overseer Peter McCann also reports a decreased yield of fish as compared with that of previous years. In the beginning of the season a severe frost kept the fish back, then the driving of timber commenced and considerably interfered with dip and scow-net fishing. Pickerel got so scarce that they actually sold as high as 11 cents per pound on the fishing grounds. Further up stream fishing was good, even better than for years past. There are now thirteen fish-ways on the upper portion of this stream, all in satisfactory order. Complaints of killing fish with explosives came to this officer's notice, but notwithstanding his efforts to punish the guilty parties, he found it impossible to procure sufficient evidence to secure a conviction.

DETROIT RIVER.

Overseer Joseph Boismier reports about the same yield of fish as last year, but an improvement is noticeable in whitefish, especially in the vicinity of Fighting Island. They were more plentiful on the Canadian side than on the Michigan shores, and had the weather been more favourable, the catch would have been still larger. Pickerel and sturgeon are reported as increasing in Lake St. Clair. The total value is made up at only $2,725.

LAKE ERIE DIVISION.

Overseer D. Girardin states that the past season was the roughest he ever experienced in that vicinity, hence a further decline in the yield of the Pelee Island fisheries. Black bass is the only kind of fish making a favourable showing. This fish is hard to capture; it is said that it will find its way out of a trap-net in a very short time. After the big gales the fish did not strike inshore again. The yield of these fisheries does not reach $15,000; last year it was $26,700, while a few years ago it amounted to over $60,000, showing a decrease of exactly 75 per cent since then.

Overseer W. Freeland, who has been appointed in place of John McMichael for the Elgin division, returns about an average catch of fish. Herring and pickerel are the staple fish of this division, and large hauls were made during the month of October. The close season was fairly observed; only one party was fined for illegal fishing. The total value of the yield of this division reaches $100,000—about the same as last year.

Overseer Henry Linley reports that the fishing season has been more satisfactory than for years. The run of herring was very large and lasted well into July. These staple fish were of a large uniform size and of good quality. Fishermen say they must use coarser meshes in the pots of their pounds to successfully carry on herring fishing, otherwise a good many would get gilled and would be a dead loss for commercial purposes. Whitefish are becoming more plentiful; splendid hauls of this delicious fish were

made, attributable to the annual output of fry from the Sandwich hatchery. Pickerel are also as plentiful as ever and meet with ready sale on the United States markets. Fishermen were dissatisfied at having to discontinue herring fishing during close season for whitefish. They claim that in view of the great abundance of large-sized herring in their waters, there is no urgent necessity to protect the herring beyond having all nets removed by the 15th of November. It is this overseer's opinion that these fish commence spawning only about that time. There are no salmon-trout in this division. The heavy gales at the end of October considerably damaged the fishing gear, so much so that it could not be got into shape again before the order to stop fishing of all kind came. Complaints against mill rubbish and bark from timber were investigated and the nuisance stopped. Illegal nets were seized in Rondeau Bay and destroyed. The total value of the fisheries of this district is placed at $123,200, a considerable increase over last year.

Overseer David Sharp reports the catch of fish above the average. If fishing for coarse fish had been allowed during November it would have been the largest yield for the last ten years. Two parties were fined for taking pickerel during close season. Several seines and dip-nets were seized and destroyed and the owners fined for violations of the Fisheries Act. Mr. Sharp says he has examined some whitefish and herring during the month of November and believes that they spawn late in November; he would be in favour of allowing fishing for whitefish and herring till 10th November, and then stop all further fishing for the year. Some protection should be given to the sturgeon. The total yield is valued at $33,972, a slight surplus over that of last year.

LAKE ONTARIO.

Overseer Fred. Kerr, who had charge of the Essex County division, in Lake Erie, as well as the Hamilton district, reports the catch of the common herring, known as blue-back, as unusually large in both districts. Immense hauls of these fish were made in the Lake Erie division, especially on the east side of Point Pelee, while on the west side fishing was exceptionally poor. Herring were of large size and brought fair prices on the home market. These fish have again returned to the Niagara waters, from where they had almost entirely disappeared. Owing to the rough weather towards the end of the fishing season, there is no doubt herring were allowed to spawn unmolested. The abundance of these fish in Lake Ontario is ascribed to the cessation of gill-net fishing during the summer months, which allows them to grow and congregate on their grounds undisturbed.

There was no improvement in the catch of cisco-herring. On the contrary, a steady decline is noticeable, and Mr. Kerr fears the cisco industry will soon be a thing of the past, unless some regulation mesh be adopted.

There were but few fishermen engaged in the whitefish and salmon-trout fishery this season in Lake Ontario, but these fish seemed more abundant than usual. Good hauls of the former were made with the seine at Burlington Beach during six or seven weeks, while quite a number of the latter were caught at Winona and Grimsby with gill-nets.

About 25,000 lbs. of sturgeon were captured at the mouth of the Niagara River. They were plentiful and of large size, many of them weighing over 100 lbs. each. On the Lake Erie coast they were scarcer, especially at the head of the lake opposite Buffalo, where years ago so many were captured, they seem to have almost disappeared, owing, no doubt, to overfishing and to the pollution of these waters by the sewerage of this large city.

Coarse fish were as abundant as last year, and large quantities were taken.

The fishery laws were fairly well observed, though several parties were fined for spearing, and a number of gill-nets found illegally set in Burlington Bay were seized. Fishermen received favourably enough the departmental order to stop all fishing during November. The gill-net fishermen of Lake Ontario are favourable to a protective time for herring, but would not like it to commence before 15th November.

The total value of the fisheries of that part of Lake Ontario under the charge of this overseer amounts to $45,686—an increase of over 33 per cent as compared with the yield of 1891.

Overseer Wm. Sargent returns about the same catch of fish in his division as last year. Common herring are getting more plentiful every year. Some of them are now cured and smoked as ciscoes, and bring the same price on the market. Ciscoes are steadily decreasing, although some fishermen still expect to see them as abundant as ever. To attain this they should be protected during their spawning time. The close seasons were all well observed. The total value of this district is computed at $40,666.

Overseer Wm. Helliwell returns an increased catch as compared with that of last year, although he is of opinion that fishermen undervalue their catch, fearing a higher license fee, should the yield be large. The take of herring was three times as large as that of 1891. Coarse fish were as plentiful as before, though considerably less were caught. The whole catch, valued at $13,359, an increase of nearly 100 per cent over that of the preceding season, was disposed of on the Toronto markets.

Overseer Chas. Gilchrist reports a very poor fishing season in Lake Ontario as well as in Rice Lake and tributaries. The latter lake being shallow, the heavy gales prevailing during most of the summer stir the muddy bottom and render the waters so dirty that good fishing was out of the question. Maskinongé and bass are numerous, but it is only in September, after the weeds have got old and sunk to the bottom, that good captures can be effected. Only ten permits were issued to foreigners to angle in Rice Lake. The same storms interfered with the gill-net fishermen of Brighton, who sometimes were as long as three weeks before they could raise their nets, and, of course, most of the fish would be dead. This accounts for a decline in the total yield of this district of over 50 per cent, being only valued at $9,800.

Overseer Nelson Simmons returns about an average catch of fish. A slight decline is noticed in bass, but coarse fish were more abundant than ever known before. The law has been generally well observed. The total yield is valued at $11,000.

Overseer Joseph Redmond reports a considerable increase in all the finer grades of fish, which he attributes to a better observance of the close seasons during late years. Whitefish and salmon-trout are doubtless becoming more numerous, especially where fry was deposited a few years ago, and the fishermen appear to appreciate the Department's efforts to stock and preserve their waters, by a stricter observance of the fishery regulations. The excessive use of hoop-nets tends to diminish the stock of coarse fish, and Mr. Redmond thinks that after the spring fishing is over these nets should not be set again till after the 1st of October. The total yield of this district amounts to $58,400, an increase of $7,000 over last year.

Overseer W. P. Clarke notices a considerable decrease in the catch of fish, specially in whitefish and herring, in the Bay of Quinté. The run of whitefish was much later coming into the bay than usual, hence seining for them was poor, and the take proportionately small. Coarse fish were numerous, and the hoop-net fishermen did well. The total value is made up at $17,000 ; last year it was $26,000.

Overseer A. D. Sills reports that although the catch of fish is not nearly so large as last year, the prices obtained were considerably in advance of those of former years. The run of whitefish came so late that the close season was nearly at hand, and but few fish were taken. Pickerel did not seem to frequent their usual grounds in the spring time. The whitefish close season was not well observed. Fishermen of this division, on hearing that herring nets were permitted elsewhere, not only set their herring nets, but their gill-nets as well, which were seized. Mr. Sills considers that herring nets should not be allowed at all during November, as they break up the schools of whitefish, as well as facilitate illegal fishing for these fish. The total yield of these fisheries is estimated at $8,400, being a decrease of over 25 per cent from last year, although still above the catch of 1890.

Overseer R. R. Finkle returns only 20,000 lbs. of whitefish, and no other kinds of fish for the Amherst Island district. The close seasons were well observed by the few fishermen employed in the industry, and no violations of the laws came under his notice.

Overseer Peter Kiel states that the fisheries of Wolfe Island have now dwindled down to a few coarse fish netted in marshy, low places during the early spring. Few are engaged in this fishery, as there is no home market for coarse fish, and after

deducting the United States duty from the low prices obtained for them, export is rendered unprofitable. Many American tourists visited our waters during the summer months and had good sport. They were warned against taking young and immature fish, and from examination of their catch Mr. Kiel believes that they honestly complied with the regulation. He recommends that a few licenses be issued to honest fishermen in the vicinity of Pigeon Island, where whitefish and salmon-trout might be taken.

Overseer John Cox states that fishing was not vigorously carried on about Howe Island, although the run of coarse fish was good. Angling and trolling for bass was better than usual.

FRONTENAC, LEEDS AND LANARK DIVISION.

Overseer Thos. Merritt reports a considerable increase in all kinds of fish. Bass was never known to be so plentiful in the river, as well as in the inland waters of this division. The angling sportsmen did well. With a couple of exceptions, when delinquents were punished, the close season was strictly observed. Many foreign tourists carry with them small seines for the purpose of taking bait, which prove to be very destructive to the young of all game fish; and he again recommends that these Americans be compelled (under liability of seizure of their yachts) to report their arrival and obtain permits from the fishery officer to fish in our waters. Should this be adopted, beneficial results would ensue.

Overseer N. Acton states that all fishing in his district is carried on by trolling and angling. Bass were as plentiful as during the previous season. The catch of pike and other coarse fish is about the same as last year. The law was well observed, and complaints were few.

Overseer Geo. Lake states that the catch of fish was an average one. The close season was well observed. There are no fish-ways in his division, but he thinks one should be built at foot of Bob's Lake. Saw-mill owners keep the rubbish from the streams. Mr. Lake recommends the granting of permits to actual settlers during November to catch herring for domestic purposes.

Overseer Robt. A. Gilbert states that no netting is permitted in his district. Angling was good, especially on Trout Lake, which is fast becoming a favourite resort. The close seasons were well observed. The settlers of Clarendon township would like to see that part of the Mississippi River stocked with pickerel fry. There are no fish-ways in this district.

Overseer H. R. Purcell also states that no netting is allowed in the inland waters under his charge. Angling was very good, especially during November. Mill-owners are complying faithfully with the saw-dust requirements. Five persons were fined for violations of the fisheries regulations. Mr. Purcell states that the lakes are beautifully situated and were they properly protected and some of them restocked with fry, should attract numerous sportsmen. All foreigners should pay a fee before being allowed to fish in our waters.

Overseer Wm. Hicks claims that with the help of guardians the protection of his district was efficiently performed and the close seasons were respected. There was some good salmon-trout fishing. Mr. Hicks is of the opinion that these fish spawn in October instead of November, and that bass spawn in June. The latter fish is becoming more plentiful, and schools of young bass are noticed around the shores.

GRENVILLE, DUNDAS, STORMONT AND GLENGARRY DIVISIONS.

Officers Wallace, Poole, Hunt, Boyd, Mooney and *Donald J. McDonald* have charge of the above divisions. With the exception of a few hoop-nets, fishing in these waters is all carried on by angling and trolling, mostly by sportsmen and visitors, who employ a large number of boatmen. The catch of bass is given at 36,200 lbs., and that of pike at 73,700 lbs. The total value of all the fish is computed at $6,789, being a considerable increase over that of last year.

PRESCOTT, RUSSELL AND CARLETON DIVISIONS.

Overseers O. Miron, R. O. Campbell and *Matthew Riddell* have reported on these divisions. Mr. Miron says no other fishing except hook and line is allowed in his district. Anglers did poorly, as the water was too low. The close season was well observed. The only fish-way in his district was kept in good repair.

Mr. Riddell reports that more fish were taken than during the previous year. He thinks a fish-pass should be placed in the dam at Galetta Falls, on the Mississippi River, to allow the fish from the Ottawa to ascend that stream.

RENFREW DIVISION.

The few fish caught in these waters for domestic consumption are only valued at $2,000.

Overseer Geo. Russell states that fish are increasing since the saw-dust regulations are better observed. The only fish-way in his district has been kept open and in good order.

Overseer A. Acheson also states that only the coarser kinds of fish are found in his district. These are as plentiful as formerly, but farmers are too busy to devote much time to fishing. The fishery laws are reported as well obeyed.

LAKE NIPISSING.

Overseer J. S. Richardson says that there were no net licenses issued in this lake last season, and that the hook and line catch was small, its total value being given at $1,170.

PARRY SOUND AND MUSKOKA DIVISIONS.

Overseer Geo. R. Steele states that, as it is very difficult to ascertain with any accuracy the quantities of fish caught in the lakes under his charge, he can give an estimate only. The close seasons were fairly well observed, only two violations coming to his notice, and as the offenders were juveniles, their fishing apparatus was merely confiscated without imposing a fine. A single case of violation of the saw-dust regulation was dealt with. There are no fish-ways in this division, and it seems that natural and artificial obstacles are such as would render fish-ways comparatively non-effective. Some complaints have reached him that several dams, especially at Deer Lake, should be provided with fish-passes, but Mr. Steele is of opinion that restocking those waters with fry would produce better results than constructing fish-ways.

Overseer J. G. Rumsey reports that tourists were not as numerous as formerly, but anglers reported better individual catches than during the previous season. The close seasons were fairly observed, and the spearing of fish is steadily decreasing. He seized a small net in Vernon Lake and destroyed it, but could not find the owner.

Overseer Edmund Forsyth states that fish are not as plentiful as formerly, owing to number of dams built during the past seven or eight years by lumbermen on nearly all the streams running into Georgian Bay. Three of these dams have been provided with fish-passes during last season. In some of these dams it will be difficult and very expensive to place fish-ways, but next season he proposes to visit and examine them more carefully.

LAKE SIMCOE AND COUCHICHING.

Overseers E. H. Cameron, Geo. Clark and *L. S. Sanders* state that as Lake Simcoe is set apart for natural propagation of fish, no licenses are issued, and the catch by angling can only be estimated. Bass were numerous, and sportsmen were satisfied with their captures.

Overseer Wm. McDermott states that all kinds of fish in the inland waters of Simcoe county are at least as plentiful as ever with the exception of speckled trout, which is becoming scarce in the lower parts of the streams. Pike was plentiful, especially in the Nottawasaga River, and good bass fishing was enjoyed in Holland River. The close seasons were strictly adhered to; all rumours of illegal fishing, after investigation, proved

unfounded, with perhaps one exception, that of netting on the Holland River, which he hopes to stamp out should further attempts be made in the same direction. In fact, Mr. McDermott is pleased to notice the marked improvement in recent years in the observance of the regulations. Mill-owners have at last concluded that they cannot with impunity continue to throw mill-rubbish into the streams, and have desisted from this obnoxious practice. This officer thinks the law should define the distance from the water's edge where saw-dust may be dumped. He has noticed instances where saw-dust is piled perpendicularly on the extreme edge of the banks, so that some must necessarily fall into the stream from the least disturbing causes.

SCUGOG DIVISION.

Overseer John Martin reports a decreased catch in all kinds of fish, except coarse fish. The very high water during the fishing season was a drawback to good fishing. Bass is caught through the ice with hook and line in large quantities. The close seasons were fairly well observed. The only fish-way in his division is entirely useless. The whole catch of fish, of which maskinongé is the principal, is valued at $24,780.

PETERBOROUGH DIVISION.

Overseer Geo. W. Fitzgerald estimates the catch of bass at 50,000 lbs.; that of maskinongé at 40,000, and mixed fish at about 30,000 lbs., valued over $10,000. He gives a description of the numerous lakes under his charge in the counties of Peterborough and Victoria as follows:—

Katchawanook Lake, five miles long, is beautifully situated between two villages, and is frequented by bass, maskinongé, eels and herring. Fishing is very good in this lake, at the head of which there is a saw-mill.

Clear Lake, six miles long, is frequented by bass, maskinongé, and a few salmon-trout. Owing to the very high water, fishing was poor.

Stony Lake, fourteen miles long, is visited by thousands of pleasure seekers, who camp on its banks. Bass, maskinongé and salmon-trout are captured in this beautiful sheet of water, which empties into Rice Lake through Indian River.

Deer Bay Lake, eight miles long, affords the best fishing in the whole county. It consists of almost two chains of small lakes, in which large quantities of bass and maskinongé were caught this season.

Buckhorn Lake is eight miles long, and bass, maskinongé and eels are found therein. Violations of the fishery laws were discovered in this lake, and the convictions made had a salutary effect.

Chemong Lake is ten miles long. Large catches of maskinongé were made in this lake, which also contains bass. The overseer made one conviction for illegal fishing here, and a guardian was appointed to protect the fisheries.

Pigeon Lake is quite a body of water, about twelve miles long by three miles wide. Violations of the fishery regulations were reported from here, and a guardian was appointed.

Ball Lake is ten miles long with narrows. The fishing is good and no violations were reported. Fifty thousand salmon-trout fry were distributed in these waters last spring. Not far from this lake, Mr. Fitzgerald convicted a party for spearing maskinongé in the Bobcaygeon Rapids. There are two mills on this rapid unprovided with fish-passes.

Then comes Sturgeon Lake and Goose Lake. A good deal of illegal fishing is attempted here, so a guardian has been appointed to protect these lakes. Two hundred thousand salmon-trout fry were deposited in these waters last season. Another guardian has taken charge of the 18 miles of Scugog River included in this officer's district. He seized and destroyed a net, but could not discover the owner. Fishing for bass and maskinongé in this part of the stream was reported better than for years. The Fenelon Falls are 18 feet high and cannot be ascended by fish. A few might get up when the locks are opened for the passage of boats.

Cameron Lake comes next, and is about five miles long and nearly as wide. The catch of fish was small and consisted of bass and maskinongé.

Balsam Lake is a large sheet of water, where little attention was paid to the fishery regulations before this year, but several convictions will produce a good effect another year.

Next are the Coboconk Rapids, near which are the two Mud Turtle Lakes, where bass and maskinongé are reported plentiful. The fishery laws are well observed. The two mills on the above-named rapid have complied with the saw-dust regulation.

In Moore and Gull Lakes, which are about ten miles long, are found bass, trout, herring and eels. A guardian supervises these waters, and one conviction for illegal fishing has prevented further poaching.

In Deer Lake and the two Bob Lakes, the guardian reports the regulations well observed. The yield of fish therein was small.

Gull River is the outlet of a chain of lakes extending for thirty miles. Salmon-trout is the principal kind of fish in these waters. There was no guardian here this season, but there should be one. On one of his visits the overseer fined a mill-owner for allowing saw-dust, etc., to escape from his mill into the stream.

South of this river is another chain of lakes, of which Burnt River is the outlet into Cameron Lake. Bass and a few salmon-trout were all the fish that were caught in these lakes last season.

Mr. Fitzgerald found all the guardians dispersed over the large area under his supervision performing their duties faithfully and carrying out the instructions received from the department, with one exception, which was punished by dismissal.

WELLINGTON COUNTY AND CREDIT RIVER DIVISION.

Overseer Andrew Hughson states the yield of speckled trout was satisfactory during the last season, and although used for domestic purposes, this fish is highly priced. Many of the small lakes and ponds are now leased to private parties who have gone to considerable expense in procuring speckled trout fry or other fish to restock the depleted waters which formerly abounded in game fish. As several nets were seized this summer and saw-mills were not working much, all this will contribute to the increase of fish. The owners of mill-dams at Alton claim that the placing of fish-ways would leave them without a sufficient supply of water. There are three grist-mills and two roller-mills in this vicinity. Mr. Hughson thinks that an expert should be sent from the department to examine the dams above referred to.

RETURN of the Number and Value of Vessels, Boats and Fishing Material, and Number
Ontario, for

NAME OF DISTRICT.	VESSELS, TUGS AND BOATS EMPLOYED.						
	Vessels or Tugs.				Boats.		
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.
Lake Superior Division.			$			$	
Coast extending from Pigeon River to Otter Head and Michipicoten	6	146	960	25	33	3300	66
Caribou Islands					5	800	12
Packasaw River					4	800	12
Pilot Harbour	2	184	18000	15	6	1200	18
Dog River					4	800	12
Gargantua					3	500	8
Mica Bay					4	800	12
Point Mamainse					2	400	6
Batchewna Bay					1	100	4
Goulais Bay	1	34	2000	4	1	100	3
Gros Cap					1	100	2
Totals	9	364	20960	44	64	8900	155

ARIO.

of Men employed, &c., with the Kinds and Quantities of Fish in the **Province of** the Year 1892.

Fishing Material.				Kinds of Fish.								Value.
Gill Nets.		Pound Nets.										
Fathoms.	Value.	No.	Value.	Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Sturgeon, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse fish, lbs.	
	$		$									$ cts.
28500	5500	31	4650	235	550550	295400	780	31600	40300	....	65000	89,595 00
14100	2250	2	500	.....	.....	197320	350	..	.....	.....	.....	23,232 00
8000	1500	1	300	11	1200	52000	100	.....	.....	.....	.....	6,406 00
12000	2250	.....	.....	5	42000	88000	51	.....	.....	.....	....	12,720 00
8000	1500	.....	.....	5	18000	26000	9	.....	.....	.....	.....	4,180 00
300	600	2	700	4	17000	18250	9	.....	.....	.....	.....	3,315 00
800	1500	.....	.....	.....	22000	42000	15	.....	.....	.....	.....	6,110 00
400	800	.....	.....	10	35490	27700	3	.....	.....	.....	.....	5,739 20
..	.....	5	1800	...	22000	16000	.. ..	15640	1500	400	.....	4,393 40
.....	.. ..	5	1600	.....	18700	24730	.....	1400	1800	200	.....	4,153 00
.....	.....	2	850	....	2700	4900	.....	1200	800	.....	.....	818 00
72100	15900	48	10400	270	729640	792300	1317	49840	44400	600	65000	160,661 60

RETURN of the Number and Value of Vessels, Boats and

NAME OF DISTRICT.	VESSELS, TUGS AND BOATS EMPLOYED.							FISHING MATERIAL.					
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.
Manitoulin Islands, North Channel and Vicinity.			$			$			$		$		$
St. Joseph Island					1	200	2	104	85			1	400
Kashkawong Point					3	600	7					4	2200
Seine Islands					2	150	6					3	900
Cockburn Islands	1	20	1000	3	2	400	8	294	1380			9	2600
Burnt Island	1	25	1000	7	1	150	3	1950	2000			5	1500
Duck Islands	3	75	6000	18	14	5000	28	9750	17500			5	1500
South Bay	1	15	1000	4	4	600	14	30000	3000			9	2700
Fitzwilliam Island					2	150	4			70	80		
Squaw Island	3	75	6000	15	24	3000	56	10000	6760				
Little Current					6	1200	12	2500	2000				
Kagawong					4	800	8	1200	1350				
Gore Bay	1	49	2000	6	2	360	5	1300	1000			7	3500
Cape Roberts					2	400	8					7	2000
Thessalon					4	450	4	1600	1000			4	1100
Grand Batture					1	140	2					2	1000
Hennepin Island					1	150	3					4	1500
Grant Islands					2	400	5	935	1000				
Missaqua Islands	1	11	1800	7	2	200	4	7000	2000			1	300
Algoma Mills					2	400	4					4	800
Newport	1	25	600	5	5	1000	12	1664	1750			5	2000
Killarney					33	6600	68	69880	75000				
French River					5	1000	15	5600	1500				
Totals	12	295	19400	65	122	23290	278	143777	117325	70	80	70	24000
Georgian Bay Division.													
From French River to Cape Hurd, including Waubaushene, Midland, Collingwood, Owen Sound, Colpoy's Bay, and all islands around said coast	11	255	50000	75	133	30000	350	40000	80000	420	1500		

Fishing Material, &c., in the Province of **Ontario**—*Continued.*

Kinds of Fish.												Value.
Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Trout, brls.	Herring, brls.	Herring, fresh, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Mixed coarse fish, lbs.	$ cts.
5	3000	4000	10	.....	.....	300	.....	.....	500	200	2000	903 00
44	41340	9741	.....	.....	.....	900	.....	.....	4950	3500	7600	5,425 80
100	20000	.....	.....	.....	.....	.....	.....	.....	1000	.....	.....	2,650 00
.....	67000	35000	.....	.....	.....	750	.....	.....	33500	.....	.....	10,580 00
.....	45320	46208	.....	.....	.....	2300	.....	.....	.....	.....	.....	8,384 30
.....	53314	438800	.....	.....	.....	1570	.....	.....	110	.....	.....	47,444 82
.....	118100	200000	.....	.....	.....	1000	.....	.....	10000	.....	.....	30,008 00
.....	20000	55000	.....	.....	.....	.....	.....	.....	.....	.....	200	7,006 00
.....	341140	341150	.....	.....	.....	.....	.....	.....	.....	.....	.....	61,406 20
.....	35000	35000	.....	.....	.....	3000	300	500	2000	7000	.....	6,978 00
.....	135132	8830	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,693 56
.....	70800	45800	.....	.....	.....	27000	.....	.....	20100	.....	.....	12,869 00
.....	74700	13520	.....	.....	.....	9000	.....	500	13540	1000	.....	8,625 00
.....	51040	26660	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,749 20
.....	10400	2500	.....	.....	.....	2500	.....	.....	.....	400	.....	1,252 00
.....	13340	13300	.....	.....	.....	1550	.....	.....	1182	300	500	2,579 30
.....	32720	23560	.....	.....	.....	100	.....	.....	50	100	.....	4,987 10
.....	60000	40000	.....	.....	.....	1000	.....	.....	2000	.....	.....	8,960 00
.....	22100	150	.....	.....	.....	1720	.....	.....	3750	.....	.....	2,073 70
.....	401460	2210	.....	.....	.....	54280	.....	.....	67800	580	.....	39,013 60
165	287000	30700	10	.....	.....	10462	1000	2050	106640	39300	.....	35,887 72
.....	37000	8600	.....	.....	.....	300	4200	200	12000	13000	.....	7,620 00
314	1939906	1372729	20	.....	.....	117732	43300	3250	279122	65380	10300	323,196 40
83	3610800	1802630	.....	107	332600	26900	.....	1800	479400	35700	131800	515,173 50

RETURN of the Number and Value of Vessels, Boats and

NAME OF DISTRICT.	VESSELS, TUGS AND BOATS EMPLOYED.							FISHING MATERIAL.							
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	No.	Value.	No.	Value.
Lake Huron Division.			$			$			$		$		$		$
Tobermoray	3	70	9000	20	4	800	12	60000	6000						
Big and Little Eagle					4	400	9	6000	400						
Big and Little River					5	750	11	9000	650						
Greenock and Pleasant Harbour					6	800	18	18000	1400						
Stokes Bay and Lyall Island					6	900	17	15000	1150						
Sauble Beach					10	300	60	500	50	4000	1000				
*Saugeen River															
Southampton	2	44	4000	12	4	600	12	36000	3400						
Inverhuron					2	100	4	800	80						
Kincardine					4	600	12	12000	1000						
Goderich and vicinity	3	84	9000	18	25	1350	55	72000	9000			4	1200		
Bayfield, Grand Bend and Blue Point	1	25	1000	7	23	1020	56	3500	875	2300	400	32	3400		
Blue Point to Point Edward					17	525	51			600	2100				
Totals	9	223	23000	57	110	8145	317	232450	24005	6900	3500	36	4600		
Lake St. Clair Division, including tributaries and Detroit River.															
Mitchell's Point	2	3	230	3	8	145	15			950	775				
Thames River					31	266	106			680	580			5	50
Dover East to Stony Point					11	330	40			440	1460				
Stony Point to Windsor					9	375	22			80	170	4	575		
Detroit River, including Bois Blanc and Fighting Islands	1	10	800	2	14	300	60			440	1000			2	65
Totals	3	13	1030	5	73	1416	243			2590	3985	4	575	7	115

* Angling. Speckled trout.

Fishing Material, &c., in the Province of **Ontario**, &c.—*Continued.*

Kinds of Fish.												Value.
Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, barrels.	Herring, fresh, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse fish, lbs.	$ cts.
40	180000	400000	100		40000				10000		10000	58,200 00
100	50000	60000	150	300								13,850 00
80	30000	70000	160	400								13,600 00
50	30000	120000	160	300								17,850 00
	20000	135000										15,100 00
				200	200000						200000	14,900 00
		40000										4,000 00
	60000	340000		400	80000			10000	10000	600	200000	50,930 00
					10000						10000	700 00
	10000	75000			6000			2000	1000		134000	12,730 00
	85000	450000			20000	4000		18000	3000	400	160000	58,895 00
	58250	102000			77300	48300			55860		36800	24,747 00
	800	7900		200	61350	32818			75755	400	1000	10,014 83
270	524050	1799900	570	1800	494650	85118		30000	155615	1500	751800	295,516 83
								7580	470	1656	16155	1,045 75
	31000	43400		620	155000	210	550	5500	67000	3060	132100	23,651 60
						1800	1000	14600	209000	6700	207400	18,051 00
	2050				1900	45350	700	1220	2350	830	17600	3,763 20
	24000				2000	200		200	2200	725	18500	2,725 25
	57050	43400		620	158900	47560	2250	29100	281020	12971	391755	49,236 80

RETURN of the Number and Value of Vessels, Boats and

NAME OF DISTRICT.	VESSELS, TUGS AND BOATS EMPLOYED.							FISHING MATERIAL.			
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.
Lake Erie Division.			$			$			$		$
Point Pelee Island					16	2750	31				
Colchester	1	12	3500	3	10	700	13				
Kingsville					8	875	9				
Point Pelee (Mainland)					27	2900	38	1000	150		
Wheatly					1	100	2				
Coast fronting on County Kent	1	198	12000	11	49	5030	60	800	90	250	300
New Glasgow					1	100	4				
Eagle					5	395	9				
Tyrconnel					4	450	7				
Port Stanley	4	125	18800	18	14	2380	21				
Port Bruce	2	20	2800	14	6	800	14			250	175
Port Burwell	3	30	5500	9							
Houghton to Rainham, including inner and outer bays and Turkey Point	7	89	9200	17	49	2810	118	6350	900	4930	2400
Long Point Island	2	45	4000	5	12	1400	27	1500	600	1050	900
Cayuga to Moulton Bay	2	22	4000	4	19	472	32	6000	2300	310	450
Low Banks					10	400	20	1500	250	650	400
Port Colborne					7	450	10	3400	550		
Ridgeway	1	12	3000	2	2	125	3				
Fort Erie					5	260	14	1800	250	400	150
Totals	23	553	62800	83	245	22397	432	22350	5090	7840	4775

Fishing Material, &c., in the Province of **Ontario**, &c.—*Continued.*

Pound Nets.		Kinds of Fish.										Value.
No.	Value.	Whitefish, lbs.	Herring, barrels.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse fish, lbs.	
	$											$ cts.
29	7750	19000	....	163800	....	52250	....	15450	33000	.....	33500	14,789 00
10	4050	10900	....	157000	....	10400	....	2300	6300	8600	52000	10,219 00
6	2650	6120	....	136750	.....	7300	100	850	5330	700	45400	8,118 10
31	13100	48200	....	1718900	....	45900	.....	5780	44460	78500	215100	88,313 80
1	400	5000	....	16000	.....	10000	....	.....	15000	4000	.....	2,590 00
44	13200	76120	....	2148900	.....	96200	.....	12950	299160	.... ..	321600	123,200 60
5	1500	1000	....	128400	.....	5000	.....	100	17000	.....	6000	6,552 00
8	2250	7440	....	107460	....	26860	....	.....	103000	.... ..	4100	11,718 20
6	2600	13800	....	215000	....	16000	.....	.....	55000	.....	9500	13,699 00
17	7900	28500	....	555000	.....	11800	.....	.....	165500	.....	2000	33,523 00
10	3700	16350	...	66450	.. ..	8470	.....	.....	275665	.....	22500	18,932 45
9	2700	9170	....	58240	.....	4450	....	...	172660	.....	8800	12,227 20
21	6300	46000	....	305480	.....	29330	700	8530	175800	17600	203000	33,972 80
10	3000	10250	...	5800	.....	22300	600	7100	11700	10800	22600	4,655 00
.....	.....	3000	800	123300	... .	350	500	1700	92250	7100	143000	18,182 50
.....	... ..	10000	....	27700	1000	400	.....	400	4140	500	7000	2,458 00
.....	... ..	1100	....	14400	.....	1300	.....	300	9150	.....	10000	1,517 50
3	2000	.....	....	10000	.....	12000	.....	.....	4000	.....	10000	1,620 00
.....	.....	... .	....	7700	.....	3000	.....	.....	5000	2000	26000	1,618 00
210	73100	311950	800	5966280	1000	362310	1900	55460	1494115	129800	1142100	407,906 15

RETURN of the Number and Value of Vessels, Boats and

NAME OF DISTRICT.	VESSELS, TUGS AND BOATS EMPLOYED.							FISHING MATERIAL.							
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.
Lake Ontario Division, including Niagara River and other tributaries.			$			$			$		$		$		$
Niagara River					11	700	25	7200	750	425	225	*3	375		
Port Dalhousie	1	8	1200	3	5	500	9	7000	1400	125	130				
Beamsville and Grimsby					11	700	20	9400	1225	25	25				
Burlington Beach					21	10630	35	19200	2525	850	500				
Bronte					14	2000	50	43400	4700						
Port Credit to Port Union	5	40	820	9	3	340	4	10000	1260	320	200			8	16
Pickering Harbour					5	450	9	700	325	20					
Bowmanville					3	65	6	500	100	180	150				
Cobourg					4	225	8	2000	240	60	60				
Grafton					1	30	2	60	50						
Haldimand					1	25	2	500	100						
Murray					2	50	4	80	100						
Brighton					9	400	19	3000	360					9	180
Rice Lake															
Trent River															
Prince Edward County Division.															
Wellington Beach, Weller's Beach, Smith's Bay	4	175	9000	20	60	12000	100	22000	4160	800	200			90	2000
Bay of Quinté					68	1605	195	4600	890	1850	3120			72	1930
Lake coast fronting on Lennox and Addington					40	810	48	1790	710	110	235			29	580
Amherst Island					4	60	8	1350	125						
Wolfe Island					2	65	4							7	110
Howe Island					6	100	6	1575	170					4	120
Totals	10	223	11020	32	270	30755	554	144355	19190	4765	4845	*3	375	219	4936

* Machines.

Fishing Material, &c., in the Province of **Ontario**, &c.—*Continued.*

Kinds of Fish.												Value.
Whitefish, brls.	Whitefish, lbs.	Trout, lbs.	Herring, brls.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Mixed coarse fish, lbs.	$ cts.
....	200	300	....	73600	150	24900	100	47700	111100	.....	75400	15,178 00
.. .	200	100	...	137000	1000	2500	.....	1000	4200	8000	13600	6,794 00
...	.....	.....	....	136650	.....	200	.....	.....	2000	.....	16500	6,073 00
....	7800	11600	....	179500	350	200	.....	55000	700	72200	56650	17,641 50
...	.....	3000	....	998000	400	.....	.....	700	.....	1000	11000	40,666 00
50	14200	1000	9	277510	300	.. .	.....	100	200	1350	12700	13,359 40
....	200	150	....	48000	...	.....	.....	.....	.....	700	....	1,986 00
...	.....	200	....	.....	.....	.....	.....	.....	... ...	.....	1500	65 00
....	100	800	....	4000	100	.....	. .....	....	.....	....	1000	284 00
....	.....	.....	...	. . ..	.....	....	.....	.....	.....	.....	1000	30 00
...	.....	1000	...	.....	.....	.....	.....	.....	.....	....	.....	100 00
....	.....	.. .	....	.....	....	.... .	.....	.....	....	1000	2000	110 00
....	..... .	17000	....	21250	.....	.....	.....	.....	.....	16750	14260	3,815 30
....	.....	.....	....	.....	.....	.....	50000	40000	.... ..	.....	.....	5,400 00
....	.... .	2000	....	.....	9000	1500	50000	45000	32000	30000	50000	11,130 00
....	300000	160000	....	40000	.....	.....	20000	....	20000	160000	220000	58,400 00
43	48300	.....	210	40800	30000	625	1400	3850	28700	34660	164000	17,111 50
....	71000	.	....	1700	8400	.....	.....	2600	5900	9800	40200	8,399 00
....	20000	.....	.. .	.. ....	.....	...	.....	.....	... ..	.....	.....	1,600 00
....	.....	.....	....	.....	1300	.....	.. ....	.....	..... .	2200	8100	431 00
....	.....	.....	....	.....	900	800	.....	170	.....	6400	1100	465 20
93	462000	197150	219	1958010	51900	30725	121500	196120	204800	344060	689010	209,038 90

RETURN of the Number and Value of Vessels, Boats and

NAME OF DISTRICT.	VESSELS, TUGS AND BOATS EMPLOYED.							FISHING MATERIAL.			
	Vessels or Tugs.				Boats.			Gill Nets.		Hoop Nets.	
	No.	Tonnage.	Value.	Men.	No.	Value.	Men.	Fathoms.	Value.	No.	Value.
Frontenac, Leeds and Lanark Divisions.			$			$			$		$
Kingston, Storrington and Pittsburg					9	450	9	1290	430	15	150
Gananoque											
Inland waters, Frontenac											
" Leeds and Lanark, including Charleston and Beverly Lakes					6	200	10			21	540
Totals					15	650	19	1290	430	36	690
St. Lawrence River, fronting on the counties of Grenville, Dundas, Stormont and Glengarry											
Ottawa River, fronting on the counties of Prescott, Russell and Carleton											
Ottawa River, fronting on the county of Renfrew, including all tributaries											
Lake Nipissing Division											
Parry Sound and Muskoka Division											
Lake Simcoe Division											
Lake and River Scugog Division											
Peterborough County and vicinity, including part of Otonabee River											
Wellington and neighbouring counties, including Credit River											

* Estimated.

Fishing Material, &c., in the Province of **Ontario**, &c.—*Continued.*

Kinds of Fish.										Value.
Whitefish, lbs.	Trout, lbs.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Mixed and coarse fish, lbs.	$ cts.
.....	.....	.....	700	.....	.....	.....	.....	15400	23000	1,502 00
.....	.....	.....	10000	13000	3000	14060	2000	28125	28000	4,749 85
2000	20250	6500	1000	.....	200	7000	3000	6000	3000	3,477 00
.....	4000	1000	400	.....	.....	11300	1000	6800	38400	2,684 00
2000	24250	7500	12100	13000	3200	32360	6000	56325	92400	12,412 85
.....	.....	.....	3500	5000	2000	36200	1850	73700	7000	6,789 50
.....	.....	.....	1550	400	3050	4900	4300	10400	30800	2,253 00
.....	3000	300	1500	3600	2100	3600	5500	12000	8300	2,084
.....	.....	.....	.....	.....	5000	2000	.....	15000	.....	1,170
.....	41500	.....	.....	.....	4500	11400	10300	7000	29000	6,839
.....	20000	.....	.....	25000	.....	35000	7000	40000	20000	*8,550 00
.....	.....	.....	3000	.....	240000	90000	.....	.....	160000	24,780 00
.....	.....	.....	1500	.....	60000	99000	.....	.....	40000	10,830 00
.....	50000	.....	.....	.....	.....	6000	.....	2000	10000	*5,76(

RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Material, and Number of Men employed, &c., with the Kinds and Quantities of Fish in the Province of **Ontario**, for the Year 1892.

NAME OF DIVISION.	VESSELS, TUGS AND BOATS EMPLOYED.							FISHING MATERIAL.							
	Vessels or Tugs.				Boats.			Gill Nets.		Seines.		Pound Nets.		Hoop Nets.	
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Fathoms.	Value.	Number.	Value.	Number.	Value.
			$			$			$		$		$		$
Lake Superior	9	364	20960	44	64	8900	155	72100	15900	.....	.....	48	10400	.....	.....
North Channel and Manitoulin Islands	12	295	19400	65	122	23290	278	143777	117325	70	80	70	24000	.....	.....
Georgian Bay	11	255	50000	75	133	30000	350	400000	80000	420	1500	.....	.....	.....	.....
Lake Huron	9	223	23000	57	110	8145	317	232450	24005	6900	3500	36	4600	.....	.....
Lake St. Clair	3	13	1030	5	73	1416	243	.....	.....	2590	3985	4	575	7	115
Lake Erie	23	553	62800	83	245	22397	432	22350	5090	7840	4775	210	73100	.....	.....
Lake Ontario	10	223	11020	32	270	30755	554	144355	19190	4765	4845	3	375	219	4936
Frontenac, Leeds and Lanark counties	.....	.....	.....	.....	15	650	19	1290	430	.....	.....	.....	.....	36	690
Grenville, Dundas, Stormont and Glengarry counties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Prescott, Russell and Carleton counties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Renfrew counties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lake Nipissing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound and Muskoka	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lake Simcoe	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lake and River Scugog	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peterborough County and vicinity	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wellington and neighbouring inland counties	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	77	1926	188210	361	1032	125553	2348	1016322	261940	22585	18685	368	112675	262	5741

RECAPITULATION of the Number and Value of Vessels, Boats and Fishing Material, &c.—Province of **Ontario**—*Concluded.*

NAME OF DIVISION.	KINDS OF FISH.													VALUE.
	Whitefish, barrels.	Whitefish, lbs.	Trout, lbs.	Trout, barrels.	Herring, barrels.	Herring, fresh, lbs.	Eels, lbs.	Sturgeon, lbs.	Maskinongé, lbs.	Bass, lbs.	Pickerel, lbs.	Pike, lbs.	Coarse fish, lbs.	$ cts.
Lake Superior	270	729640	792300	1317	.....	.....	.....	49840	....	.....	44500	600	65000	160,661 60
North Channel and Manitoulin Islands	314	1939906	1372729	20	.....	.....	.....	117732	43300	3250	279122	65380	10300	323,196 40
Georgian Bay	83	3610800	1802630	.....	107	332600	.....	26900	.....	1800	479400	35700	131800	515,173 50
Lake Huron	270	524050	1799900	570	1800	494650	.....	85118	.....	30000	155615	1500	751800	295,516 83
Lake St. Clair	....	57050	43400	.....	620	158900	.....	47560	2250	29100	281020	12971	391755	49,236 80
Lake Erie	....	311950	.....	.....	800	5966280	1000	362310	1900	55460	1494115	129800	1142100	407,906 15
Lake Ontario	93	462000	197150	.....	219	1958010	51900	30725	121500	196120	204800	344060	689010	209,038 90
Frontenac, Leeds and Lanark counties	....	2000	24250	.....	.....	7500	12100	13000	3200	32360	6000	56325	92400	12,412 85
Grenville, Dundas, Stormont and Glengarry counties	..	.....	.....	.....	.....	.....	3500	5000	2000	36200	1850	73700	7000	6,789 50
Prescott, Russell and Carleton counties	....	....	.....	.....	....	.....	1550	400	3050	4900	4300	10400	30800	2,253 00
Renfrew counties	....	....	3000	...	....	300	1500	3600	2100	3600	5500	12000	8300	2,084 00
Lake Nipissing	....	....	.....	.....	.....	.....	.....	.....	5000	2000	.....	15000	.....	1,170 00
Parry Sound and Muskoka	....	.....	41500	.....	.....	.....	.....	.....	4500	11400	10300	7000	29000	6,839 00
Lake Simcoe	....	.....	20000	.....	....	.....	.....	25000	....	35000	7000	40000	20000	8,550 00
Lake and River Scugog	....	.....	.....	.....	.....	.....	3000	.....	240000	90000	.....	.....	160000	24,780 00
Peterborough county and vicinity	....	.....	.....	.....	.....	.....	1500	.....	60000	99000	.....	.....	40000	10,830 00
Wellington and neighbouring inland counties	....	.....	50000	.....	.....	.....	.....	.....	.....	6000	.....	2000	10000	5,760 00
Totals	1030	7637396	6146859	1907	3546	8918240	76050	767185	488800	636190	2973422	806436	3579265	2,042,198 53

RECAPITULATION

Of the Yield and Value of the Fisheries of the **Province of Ontario**, for the Year 1892.

Kinds of Fish.		Quantity.	Prices.	Value.
			$ cts.	$ cts.
Whitefish	Brls.	1,030	10 00	10,300 00
"	Lbs.	7,637,396	0 08	610,991 68
Trout	"	6,146,859	0 10	614,685 90
"	Brls.	1,907	10 00	19,070 00
Herring	"	3,546	4 50	15,957 00
"	Lbs.	8,918,240	0 04	356,729 60
Eels	"	76,050	0 06	4,563 00
Sturgeon	"	767,185	0 06	46,031 10
Maskinongé	"	488,800	0 06	29,328 00
Bass	"	636,190	0 06	38,171 40
Pickerel	"	2,973,422	0 05	148,671 10
Pike	"	806,436	0 05	40,321 80
Coarse fish		3,579,265	0 03	107,377 95
Total for 1892				2,042,198 53
" 1891				1,806,389 68
Increase				235,808 85

STATEMENT

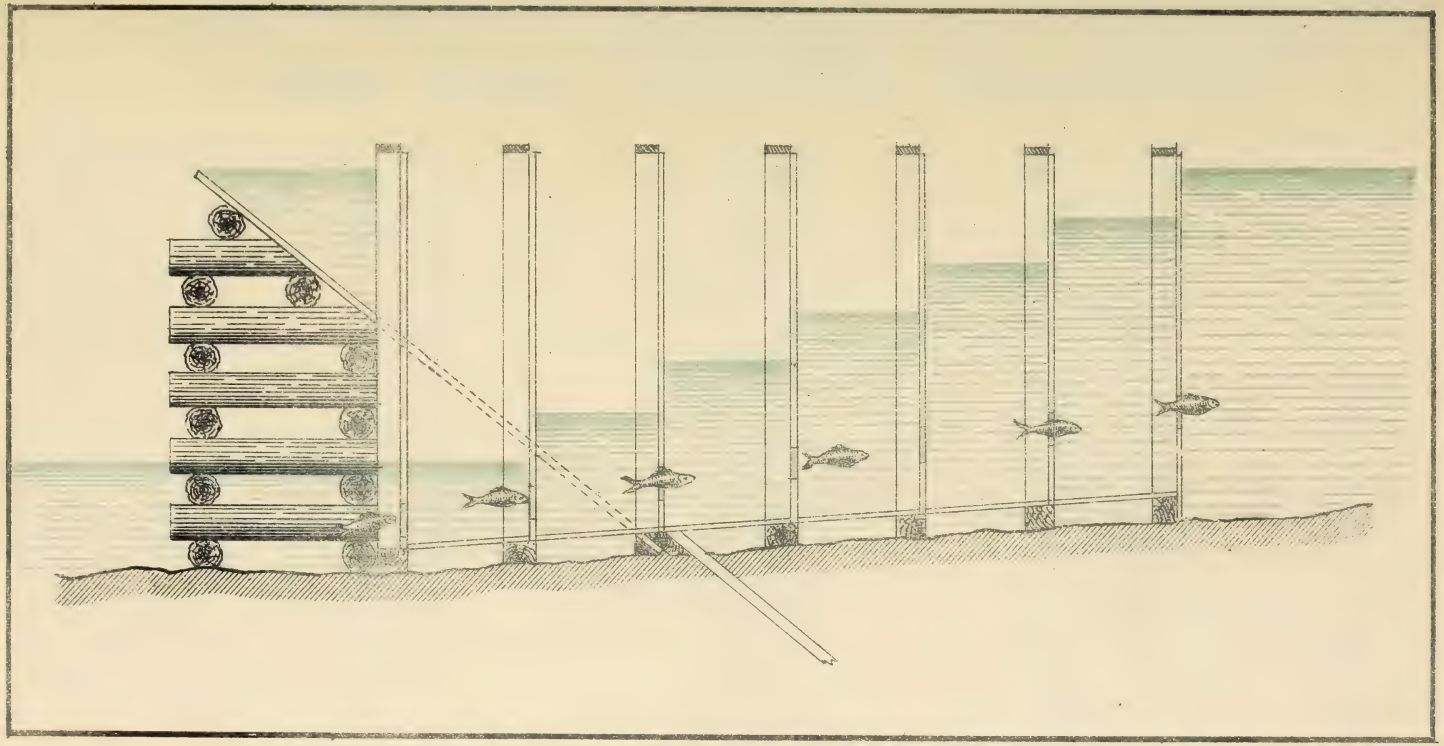
Showing the number of Vessels, Tugs, Boats, &c., in **Ontario**, for the Year 1892.

	$ cts.
77 tugs or vessels (tonnage, 1,926)	188,210 00
1,032 boats	125,553 00
1,016,322 fathoms of nets	261,940 00
22,585 " seines	18,685 00
368 pound-nets	112,675 00
262 hoop-nets	5,741 00
Total value	712,804 00

Number of men employed in the Fisheries of Ontario, 1892 :—

In tugs or vessels	361
boats	2,348
Total	2,709

PLATE I.



SCALE 1/8 INCH — 1 FOOT.

PLATE II.

Fishway old Forms



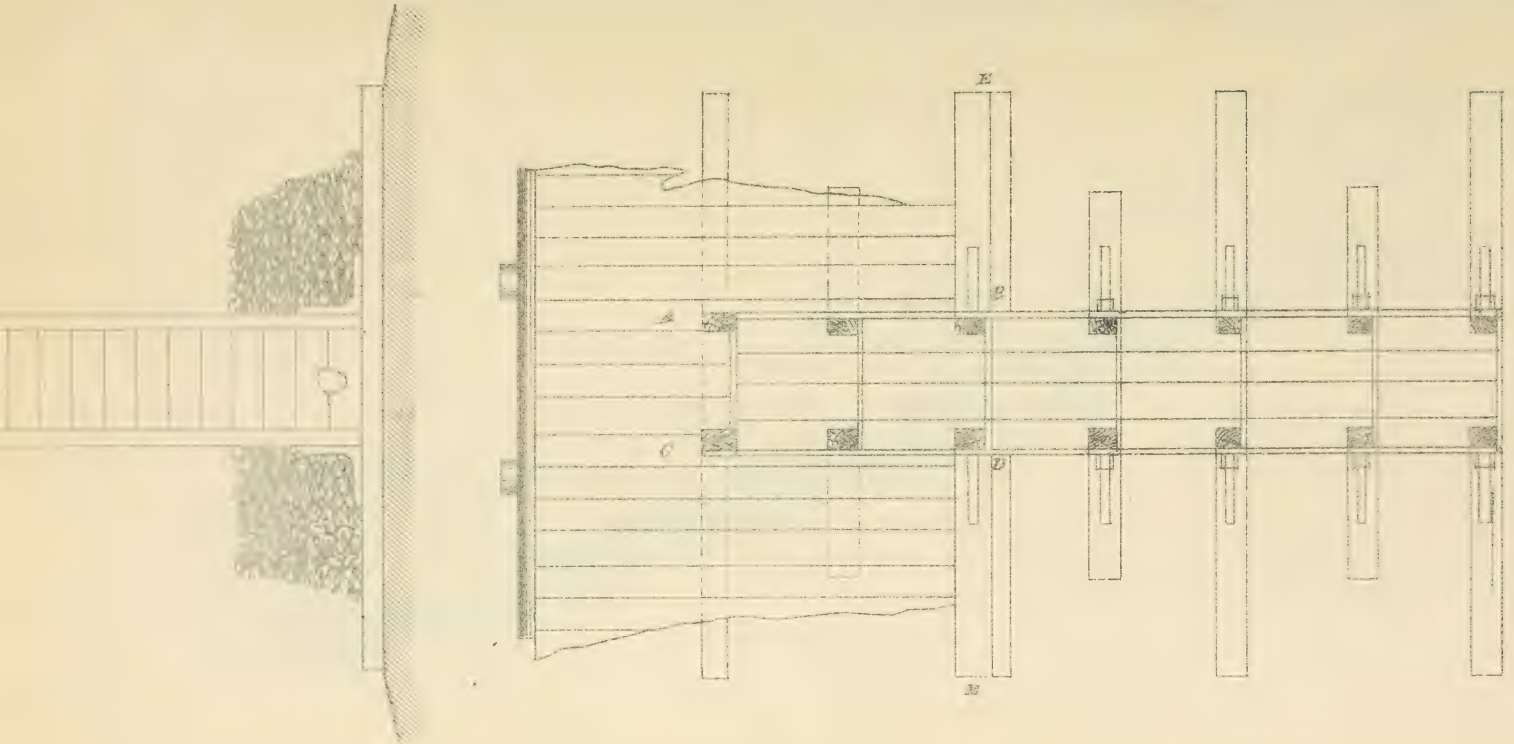
Roger Fishway



Brackett Fishway

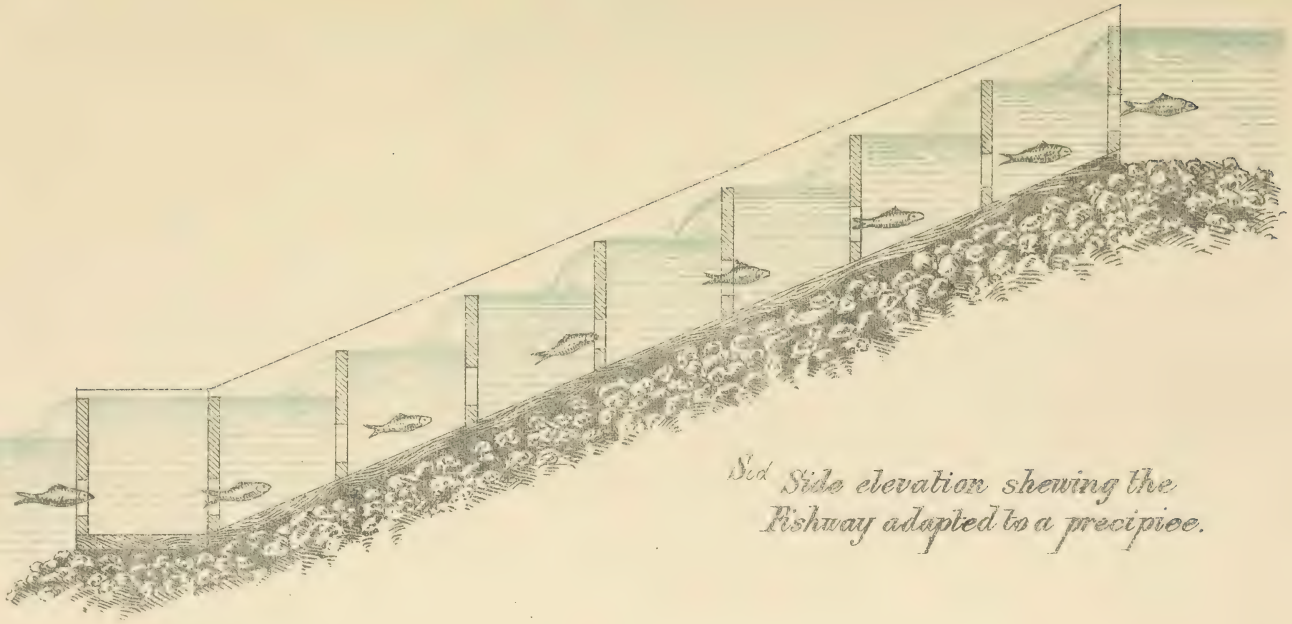


PLATE III.



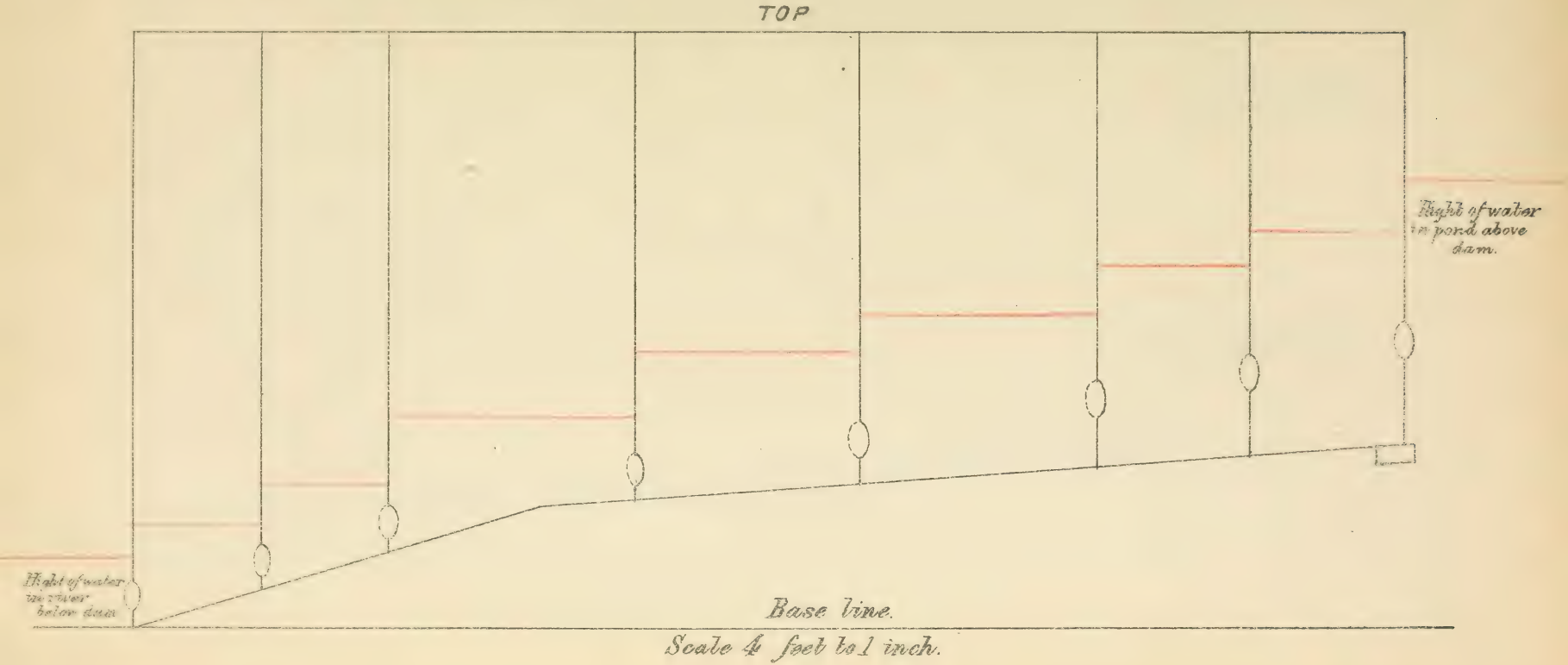
Scale ⅛ inch — 1 Foot.

PLATE IV.

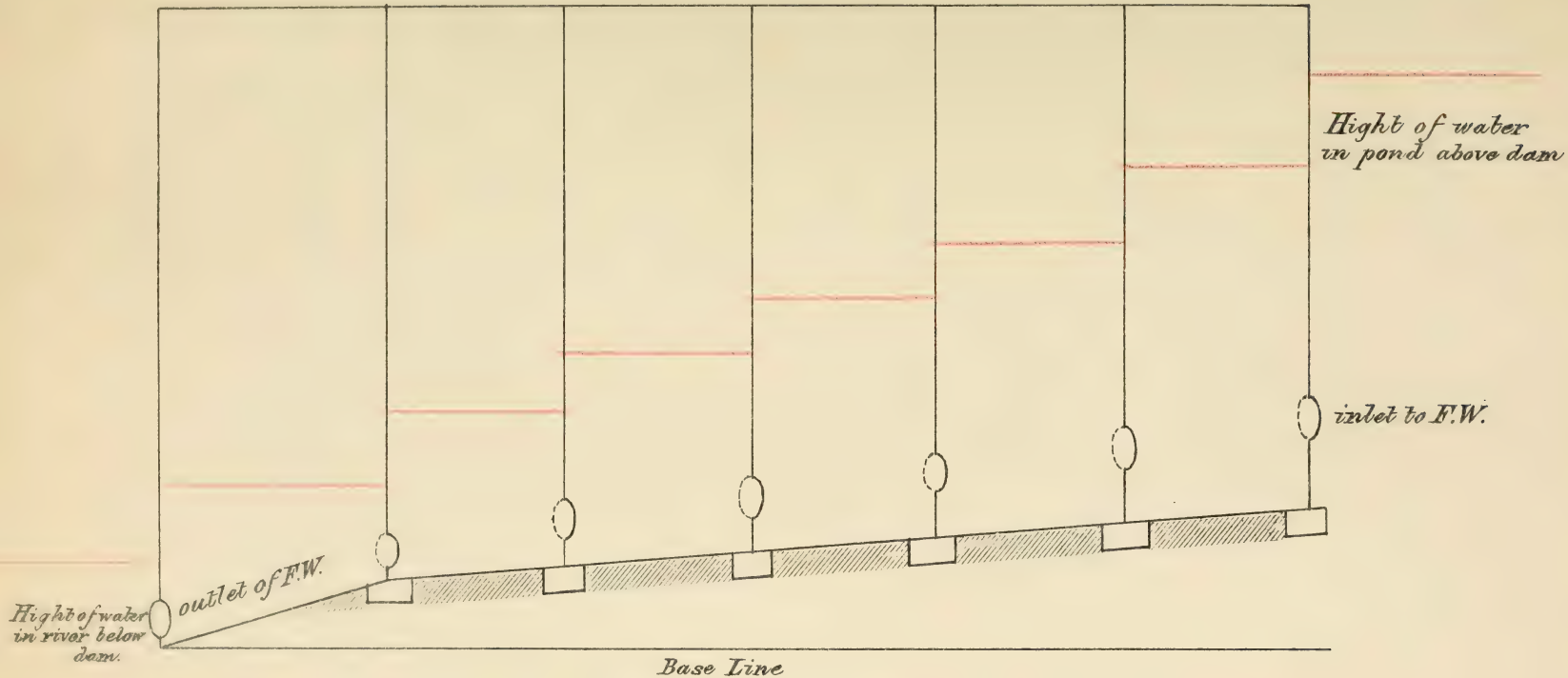


Sid Side elevation shewing the Fishway adapted to a precipice.

Side Section of Hockin Fishway constructed at Doyles Dam Tidnish, County of Cumberland, Nova Scotia, built at the same time and made part of a Road-Bridge : compartments adapted to the upright supports of the bridge. Lines in red showing height attained by the water in the several compartments also showing incline given to fishway to adapt it to the grade.



Side Section of Hockin Fishway as constructed in Cummingers Dam, Guysboro Co., N.S. Lines in red showing actual height attained by water in the several compartments.



APPENDIX H.

FISH-WAYS.

In the statutes of Nova Scotia prior to Confederation it was enacted that:

"1. In all dams or obstructions now erected or hereafter to be erected across any river or stream frequented by salmon or gaspereaux, either one-third of the main channel shall be kept open or a fish-ladder shall be placed and kept therein.

"2. Such fish-ladder shall have a slope of not more than one foot in seven; shall have one opening of not less than three feet in width at the top of the dam, and shall be so placed that there shall at all times be at least one foot in depth of water running over the mouth thereof, the bottom of such ladder to be water-tight and to be covered with stone, and at every six feet pieces of wood or stone to be fastened at right angles to the sides thereof, and to be secured to each side alternately, so as to make the current of water flow from side to side, the openings to be not less than one foot in width, and the pieces of wood or stone so jutting out from the sides to be not less than two feet in height; the lower end of such fish-ladder to be secured to the bottom of the main channel of the river."

The penalty for a violation of this Act was $100, and if a dam was kept up contrary to the Act it was liable to be prostrated.

This form of fish-way was said to be the same as in use in Great Britain. It was improved by W. H. Rogers, of Amherst, inspector of fisheries, who constructed the fish-way with projections inclining up stream at an angle about forty-five, with an additional arm at right angles to the projection: this formed a pool for a fish to rest if exhausted.

It may be mentioned here that the Brackett fish-way of Massachusetts is upon the same principle, except that the projection is at right angles to the sides and the arm at right angles to the projection. This will be better understood by reference to the sketch showing the projections in the "old form," the Roger and Brackett fish-ways.

The old form was generally built from the crest of the dam and discharged about 60 feet down stream, and, as fish instinctively follow the main stream, they seldom were known to ascend this form, having once passed the outlet they played in the pool below the dam, vainly looking for some way to ascend.

To meet this, the Roger fish-way was constructed in the pond above the dam with the discharge immediately at the dam. This was an improvement, and when kept free from debris and supplied with sufficient water, fish could ascend, but after I had examined a number of these structures and found that owing to their great length a dam of 10 feet, requiring a fish-way at least 70 feet long; that the ice had in some cases distorted them or the freshets had torn out the brackets, or, on account of the great surface exposed to a considerable pressure, the leakage was frequently so considerable as not only to destroy their usefulness but also to injure the water power of the dam; and unless they had frequent attendance by some interested person, sticks and other debris rendered them impassable, or else the proper gate for the admission of the water was not opened,—I endeavoured by a number of experiments to find a form of fish-way better adapted for the purpose, and succeeded in obtaining a form so simple and withal so efficient that the wonder is that it was left for the writer to find it. This form was described in the supplement No. 1 of the report of the Department of Fisheries of 1890, page 16, but for convenience this is repeated.

The fish-way consists of a series of compartments, having a floor which may be level, or have a grade of one in two, with sidewalls, ends and transverse partitions about every 4 feet of its length. From the bottom of the dam to above the water level these

compartments connected with one another and with the pond above, and the river below the dam by submerged aperture near the floor and in alignment for the passage of fish.

The water in the several compartments will be lower, step by step, from inflow to outlet. For instance, in a fish-way constructed in a dam 10 feet high, the water in the upper compartment will be about 8 feet 6 inches, in the next 6 feet, next 4 feet 6 inches, and so on, finally flowing out under a pressure of a head of, say, 2 feet, and, therefore, with so little velocity that fish can swim into the lower compartments and into the pond above.

The whole length of fish-way for a dam 10 feet high would be 28 feet. It is built from the bottom of the pond up, and with partitions fully across from floor to top every 4 feet. It is necessarily strong and compact so that ice cannot form under it, freshets cannot tear them, and the apertures being near the bottom, the floating debris cannot choke them, and the fish-way is always supplied with water.

The velocity of discharge being so reduced, the loss of water does not affect the mill-owner, especially when it is remembered that when fish are running in our rivers there is generally a full supply of water.

Patents have been obtained from Canada, United States and Great Britain. Plate 1 gives a side view of the fish-way in a dam. Not only does the light shine through the aperture discharging in the river below the dam make it quite distinct and noticeable, but the stream flowing therefrom, extending some distance into the pool or river below, cannot but be found by fish when they come up to the dam, swimming from one side to another as they do endeavouring to find a passage, they follow the stream to its source and find the fish-way.

No. 2 is a top view of the fish-way, and No. 3 a view of the upper end in the pond. No. 4 is a view of this form of fish-way adapted to a precipice. This form is used only as a *dernier ressort*, for as the water is taken from the surface one of the chief advantages of the form is lost. However, as it can be used with a grade of one in two, it is not only cheaper in construction but also adaptable to places where otherwise it would be almost impracticable to construct a fish-way. Either of the forms may be constructed of stone.

The apertures in the fish-way, as shown in plate 1, are about the same size, viz., 11 inches high and 9 inches across the apertures in the form for precipices. No. 4 are made larger from the bottom upwards.

During the year 1890 four of these fish-ways were constructed; in 1891 little was done beyond testing those built.

At the suggestion of Mr. Samuel Wilmot, Superintendent of Fish Culture, Mr. A. B. Wilmot, of the Bedford hatchery, was instructed to construct a trap at the upper end of one of these fish-ways built in the Ryno dam, on the Indian River, in the county of Halifax, and I quote from his report, a copy of which was furnished me.

"On 11th May I visited the fish-way in Ryno dam, Indian River. On my arrival I found the water very high; it stood 12 feet over the upper orifice, and as Warden N. Mason and others had informed me that salmon had been seen by himself and others in the upper compartment, and as I could not understand why the fish should remain in that compartment, I decided to place the trap at the upper end, and obtained from Halifax wire fencing with two-inch mesh and constructed a frame of poles, covered it with the netting and placed it at the head of the ladder. After waiting some days without success, I left it in charge of Warden Mason, with instructions to notify me as soon as any fish entered it, and on Saturday evening last I received word from him that some salmon were in the trap, upon which I immediately returned to the river and on raising the trap I found three salmon and as many sea trout."

This I considered satisfactory evidence of the efficiency of the ladder and that it was unnecessary to continue the test any further, and so destroyed the trap and returned home. In conclusion, I would say that a glance at this ladder in operation would satisfy the most sceptical of its capabilities for the passage of any or all kinds of fish through it.

The Ryno dam is 14 feet high and to surmount this a ladder 24 feet long is used, subdivided longitudinally into six compartments of 4 feet each, and the apertures are nine inches by eleven at the bottom and in the centre of each partition, being in line one with another.

The claim that the velocity of discharge is reduced is fully substantiated in the adder I have tested, and I have no hesitation in saying that this plan affords a free and easy passage for any kind of fish frequenting our rivers.

In addition to the above, I have recently asked Mr. Loftus Mason, well known to the fishing gentry of Halifax, whether he had observed any salmon in the river above the fish-way. He says, under date 11th January, 1893:—"It is my opinion that the fish-way constructed after your model is the best fish-way I have yet seen, and if it is put in a dam right it will work like a charm. I have seen salmon going through and above it, and have seen them hooked in the lake above the dam, and there is no other way for them to get through, only through the fish-way. I consider it a successful plan of allowing fish to get through a dam."

In answer to inquiry from Mr. Thomas McKeen, fishery guardian in charge of the fish-way constructed in Cumminger's dam in 1890, he says, under date 10th January, 1893:—

"There have been five freshets since the fish-way was built, and three of them very heavy; neither have these nor the ice damaged the fish-way to any extent whatever."

He has visited it once every week during the fishing season, and he has never found it choked, and has often shut the water off to see. He has often seen fish in the fish-way going up. One time he shut the water off and there were gaspereaux, trout, eels and suckers in it. He has seen gaspereaux above the fish-way, and knows of no other way for them to get up. He considers the fish-way a success, and far superior to the other two plans he had to do with—indeed, it is nearly equal to the natural stream.

At the request of the secretary of the Fishery Board of Scotland a small working model was forwarded to Edinburgh in 1891, and met with the approval of the board, as the following, extracted from their report, shows:—

"In the course of last autumn, while on a visit to America, Sheriff Guthrie-Smith, the vice-chairman of the board, was much impressed by the remarkable facilities afforded by a recently invented fish-way for enabling the migratory *salmonidæ* to surmount dams and other obstructions in salmon rivers. The inventor is Mr. Robert Hockin, one of the inspectors of fisheries in Nova Scotia. His fish-way has been patented both in Canada and the United States of America, and has received the approbation of such competent judges as Mr. Wilmot, Superintendent of Fish Culture in Canada, and Colonel Marshall Macdonald, the head of the Fishery Commission of the United States at Washington. The vice-chairman has received plans of this fish-way, which are hereafter reproduced in our report and which will clearly show its characteristics.

"The chief object of a fish-way is to enable migratory fish to pass easily over the obstruction on which it is placed, whenever the river is in such a state as to induce them to run. No fish-way that does not fulfil this condition can be called a successful one. A fish-way should be easy of access, and should be placed in such a position as to attract the fish. It should also not be too expensive, and should not require frequent repairs. Yet how few of our fish-ways in Scotland fulfil these conditions. Either the gradient is too steep, so that the rush of water prevents the ascent of running fish; or the fish-way is made in the wrong place; or the supply of water to it is liable to be obstructed; or the fish-way itself is apt to be choked up by gravel and debris; or it is liable to be injured by freshets and ice so as to need constant repairs. It is thought that the Hockin fish-way is, in a great degree, exempt from these objections.

"Many forms of fish-way have been devised to facilitate the ascent of running fish, such as Mr. Cail's lock swimming pass in England, Colonel Macdonald's and Mr. Brackett's fish-ways in the United States of America, and the fish-way of Mr. Rogers in Canada; all of which are clever and ingenious and have been successfully applied in various parts of Europe and America. But, on the whole, the recent invention of Mr. Hockin seems, in some respects, superior to any of them. One special advantage of it is the position of the orifice through which it is supplied with water. The supply can never fail so long as there is water in the dam; and this is a great point, as the orifice is far below the level of the water in the dam. Whether the orifice will not be liable to be choked up with the gravel, which is brought down in floods, by some of our rapid Highland rivers, is a point more difficult to determine. Most of the fish-ways in Scotland are supplied

with water through a cut made in the crest of the dam; so that whenever the water falls below the crest the supply ceases and the pass is useless."

I may say that the doubt as to whether gravel would choke the orifice on the rapid Highland rivers would not have arisen had I been fortunate enough to have shown a fish-way in working instead of the model.

Suppose, for instance, a body of gravel momentarily choked the entrance, it would at once allow the water in the several compartments to run off, and a full pressure of 8 or 10 feet would bear upon any obstruction, so that unless it was large enough to catch both sides of the orifice it must be forced through, therefore, nothing like gravel can choke the fishway.

In connection with the foregoing the following quotation from the London *Times* of 29th September, 1892, will be interesting:—

(*Times*, 29th September, 1892.)

"Fish-ways in Scotland.

"In referring in the *Times* of the 11th of July last to the condition of the English and Welsh salmon fisheries, as described by the inspectors acting under the direction of the Board of Trade, attention was drawn to the lamentable failures which in most instances have attended the attempts on this side of the border to insure the easy ascent of salmon along the obstructed water-ways throughout the country. From the last annual report of the Scotch Fishery Board it appears that difficulties of a similar character operate against the proper development of the Scotch salmon fisheries. The Scotch officials, indeed, seem to be in great perplexity of mind as to the most suitable way of overcoming obstacles to the ascent of salmon to the upper waters. We are told that there are about 500 miles of rivers and 40,000 acres of lochs in Scotland barred against salmon by impassable water-fall obstructions. In some instances it is suggested that the cost of enabling the fish to surmount certain barriers would probably not be repaid by the increased value of the rivers opened up. In the majority of cases, however, it is stated that the cost of overcoming the obstructions would in time be amply repaid. It seems strange, indeed, that although the want of a sufficient number of efficient salmon passes along Scotch waters has for years been a fruitful source of discontent among those interested in the subject, little or nothing has been done in the way of successfully opening up water-fall and other obstructions; and, further than this, it is difficult to understand that, when attempts have been made to open up rivers for the free passage of salmon, the canny Scot has, in most instances, exercised little ingenuity or forethought in dealing with the matter. To illustrate this two extracts from the report in question will be sufficient. We read, for instance:—

"'The Tay District Board, some years ago, placed Macdonald fish-ways on two impassable dams on the Ericht; but, unfortunately, it turned out that these fish-ways, which have proved so successful in the United States of America, are not suited to our rapid Scotch Highland streams, which, when in flood, bring down great quantities of gravel and other debris, which choke up the tubes upon which the successful action of the Macdonald fish-way depends, and so render it useless. The beautiful Highland streams, the Shee and the Ardle, which unite to form the Ericht about 6 miles above Blairgowrie, and each of which has a course of about 15 miles, are at present salmonless, because no fish can possibly surmount the obstructions at Blairgowrie.'

"Further on in the report the following significant passage occurs:—

"'The chief object of a fish-way is to enable migratory fish to pass easily over the obstruction on which it is placed whenever the river is in such a state as to induce them to run. No fish-way that does not fulfil this condition can be called a successful one. A fish-way should be easy of access, and should be placed in such a position as to attract the fish. It should also not be too expensive, and should not require frequent repairs. Yet how few of our fish-ways in Scotland fulfil these conditions. Either the gradient is too steep, so that the rush of water prevents the ascent of running fish; or the fish-way is made in the wrong place; or the supply of water to it is liable to be obstructed; or the fish-way itself is apt to be choked up by gravel and debris; or it is liable to be injured by freshets or ice so as to need constant repairs.'

"Apparently with the view of arriving at some conclusion as to the best way of overcoming obstructions along Scotch waters, and with the object also of advising any one contemplating engaging in the important work of salmon-pass building, the report of the Scotch Fishery Board is furnished with plans of certain fish-ways which have been erected along rivers elsewhere than in Scotland. These include the celebrated Irish passes of Collooney and Ballisodare, and a plan of the 'Hockin' fish-way, which is said to have received the approbation of the Superintendent of Fish Culture in Canada, and the head of the Fishery Commission of the United States at Washington. This latter pass appears also to be favoured with the approval of the Scotch Fishery Board. We read: 'Many forms of fish-way have been devised to facilitate the ascent of running fish, such as Mr. Cail's lock swimming pass in England, Colonel Macdonald's and Mr. Brackett's fish-ways in the United States of America, and the fish-way of Mr. Rogers in Canada; all of which are clever and ingenious and have been successfully applied in various parts of Europe and America. But, on the whole, the recent invention of Mr. Hockin seems, in some respects, superior to any of them. One special advantage of it is the position of the orifice through which it is supplied with water. The supply can never fail so long as there is water in the dam; and this is a great point, as the orifice is far below the level of the water in the dam. Whether the orifice will not be liable to be choked up with the gravel, which is brought down in floods in some of our rapid Highland rivers, is a point more difficult to determine. Most of the fish-ways in Scotland are supplied with water through a cut made in the crest of the dam, so that, whenever the water falls below the crest, the supply ceases, and the pass is useless. The Scotch Fishery Board do not suggest any particular place where the Hockin fish-pass could be advantageously placed, and, as may be gathered from the above quoted extract, highly as the Board may think of the invention, it is not prepared to say that it may not be liable to be choked up with debris in times of heavy flood, and prove quite as useless as the Macdonald fish-ways erected on the Ericht. The Board are of opinion that the system of passing salmon over the falls at Ballisodare in Ireland might effectually be adopted in Scotland on the Tummel, the Conon, the Spean, and other rivers. It appears to us highly injudicious and very misleading for officials to recommend any particular form of fish-pass, unless, indeed, they are fully prepared to say definitely at what certain place such and such a device could advantageously be adopted. Difficulties more or less serious attend the opening up of all river obstructions in order that the flow of water be properly regulated to insure the easy passage of fish. As shown in the Board's own report, patent fish-passes which are said to have worked well in other parts of the world are practically useless for Scotch waters. Like England, Scotland appears to suffer from lack of talent in water engineering and salmon ladder building.

"'It should be stated that as the law at present stands considerable difficulties are placed in the way of those wishing to open up obstructions for the free ascent of salmon along Scotch waters. If the proprietor of an obstruction thinks fit not to allow a fish-way to be placed on the barrier, neither the Secretary for Scotland nor the Fishery Board can move in the matter. Many proprietors do not like any interference, as they generally have a production pool immediately below the obstruction, which they fear might be injured were the obstruction opened up. Beyond this, the Crown have a claim to all the new salmon fisheries that may be created by the opening up of natural obstructions by the riparian owners, while in certain cases a proprietor below a fall may put in a claim, founded upon a charter, granting him the salmon fishings throughout a whole district of country above the fall in the event of its being opened up, although neither the fall nor the river above it are his property.' 'But for the operation of these three causes,' say the Scotch Fishery Commissioners, 'we believe that many of the natural obstructions in our Scotch salmon rivers would by this time be made passable.'

"Irrespective, however, of the want of efficient fish-ways over natural obstructions, it cannot be denied that many of the existing salmon ladders in Scotland work in a highly unsatisfactory manner, and are sadly in need of improvement."

During the year 1892 fish-ways after my model were constructed or completed in the following dams in my district:—N. L. Todd & Co.'s dam, Halifax County, Ingram River; Ross dam, River Philip, Cumberland; Ripley's dam, River Philip, Cumberland; Moses Hatfield's dam, Fox River, Cumberland; and three fish-ways, after the Roger

model, having been partially destroyed, what remained was converted to my model, viz. :—Thomas' dam, Bedford River, Halifax ; Young's dam, River Herbert, Cumberland : McLeod's dam, River John, Pictou.

Notices have been issued and my fish-way prescribed for fish-ways to be built as follows :—

2 on Apple River, Cumberland.
1 " Ratchford "
1 " Partridge Island "
3 " Shinimicas "
3 " Pugwash "
1 " Wallace "
4 " River John, Pictou.
1 " Toney "
3 " Middle "
4 " Barney's "
4 " French "
1 " Waugh's, Colchester.
1 " French "
1 " North River "
1 " East "
2 " Salmon "
1 " Bass "
1 " Harrington "
1 " Black, Antigonish.
1 " Little "

1 on Milford Haven, Guysboro'.
1 " Salmon River "
1 " Gaspereaux Brook "
1 " Moser River, Halifax.
3 " Salmon "
3 " East River, Sheet Harbour, Halifax.
2 " West " "
1 " Middle " "
1 " Tangier, Halifax.
2 " Jeddore "
1 " Preston, Salmon River, Halifax.
1 " Bedford River, Halifax.
1 " Hoosier " "
2 " East " "
1 " Little N.E. "
1 " Indian "
1 " Hubbard's "
1 " River Herbert, Hants.
1 " Gays, Hants.
2 " Jordan River, Shelburne.

In New Brunswick :—Two fish-ways were constructed on the Oromocto River, one on the Magaguadavic, and notices issued for the construction of one on the River Benjamin and one at New Mills.

In Quebec :—Two on River de Lisle ; two on River Baudette.

Notices have been issued for one on River Baudette, and one on the Chateauguay River.

In Ontario:—Two fish-ways were built on the River aux Raisins, and the following rivers were visited and plans in preparation for six fish-ways on Black River and Beaver River, Ontario. Or to recapitulate, there have been constructed twenty fish-ways, and notices have issued for the construction of seventy-five others, all of my model.

In the construction of those fish-ways which have been built, great need was felt of having some responsible person skilled in the habits and capabilities of fish and possessed of mechanical knowledge. When the plans and specifications have been placed in the hands of mill owners, and the building left to them, the result is seldom very satisfactory, and if there is anything which, if done at all, must be done right, it is the building of a fish-way. Otherwise, not only is the actual cost of building wasted, but the increased production of fish is retarded, a much more important consideration than the first. When built under the supervision of the inspector they have given satisfaction. When improperly built, not only have they brought the model into contempt, but there is a reflection upon the department.

I have the honour to be, sir,
Your obedient servant,

ROBERT HOCKIN,
Inspector.

APPENDIX I.

QUESTIONS SUBMITTED BY THE DEPARTMENT OF FISHERIES, AND REPLIES THERETO BY FISHERY OFFICERS AND OTHERS REGARDING THE PRESENT STATE OF THE SEA AND INLAND FISHERIES IN THE DOMINION OF CANADA.

SEA FISHERIES.

QUESTION No. 1.—*Are there any sea fisheries adjoining the County of?—What is their extent and value, and what kinds, quality and quantities of fish are there taken?*

NOVA SCOTIA.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
R. J. Pollock, Lower Stewiacke, County of Colchester.	About thirty miles on the coast of Bay of Fundy. The yield valued at about $8,000, comprising salmon, 5,500 lbs.; herring, 100 brls.; smoked herring, 2,000 boxes; halibut, 2,000 lbs.; shad, 325 brls.; smelts, 15 tons.
J. D. McQueen, Little Harbour, County of Pictou.	Herring, mackerel, cod, salmon and lobsters; the last two named are of poor quality.
John McDonald, Doctor's Brook, County of Antigonish.	The whole coast of Antigonish County (over 60 miles). The catch valued between $75,000 and $100,000 yearly. About 55 per cent are lobsters, 7 per cent herring and salmon, 5 per cent mackerel, 6 per cent hake, 3½ per cent cod, and 2 per cent haddock and alewives.
C. Robin, Collas & Co., Chéticamp, County of Inverness, C.B.	Yes, a large area extending from Friar's Head to Cape Rouge, yielding $200,000 annually, comprising cod, haddock, mackerel, herring, squid, lobsters, hake, salmon, eels and halibut.
James Coady, S. W. Margaree, County of Inverness.	Part of the Gulf of St Lawrence fronting on the County of Inverness, including the Bras d'Or lakes and Strait of Canso.
David Ross, N. E. Margaree, County of Inverness.	They are extensive and valuable; salmon, lobsters, codfish, herring and mackerel, all of good quality.
D. F. McLean, Port Hood, County of Inverness.	About 110 miles of sea-coast on the Gulf of St. Lawrence, and 50 miles on the Bras d'Or Lakes. Salmon, mackerel, herring, alewives, cod, hake, haddock, halibut, trout, squid, smelts, eels, oysters and lobsters, all taken in large quantities, valued at about $300,000.
Lewis McKeen, Mabou, County of Inverness.	About 100 miles of sea-coast on the Gulf of St. Lawrence, and 50 miles on the Bras d'Or Lakes salmon, mackerel, herring, cod, haddock, hake, eels, lobsters, trout, squid and smelts. The total yield of this county exceeds $350,000.
R. E. Burke, Dingwall, Aspy Bay, County of Victoria.	Various kinds of sea fisheries; mackerel, cod, herring haddock and salmon.

QUESTION No. 1—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Wm. Bingham, Englishtown, County of Victoria.	All the sea-coast extending from Boularderie Island to the county line of Inverness (about 160 miles). Salmon, mackerel, herring, cod, hake, haddock, halibut, alewives, squid, caplin, lobsters, eels, oysters and smelts, of the best quality and in large quantities.
R. G. Zwicker, Aspy Bay, County of Victoria.	Yes, extending about 80 miles along Victoria county coast. Cod, mackerel, herring and salmon of good quality, valued at about $70,000.
J. W. Burke & Son, Ingonish, County of Victoria.	The whole of the coast line of the county. Codfish, haddock, herring, mackerel, salmon, shad, hake, gaspereaux and lobsters, all of good quality.
Wm. Burke, Mira Ferry, County of Cape Breton.	Very extensive and valuable fisheries. Cod, haddock, mackerel, salmon, herring, and all other kinds of deep-sea fish.
F. W. Bissett, River Bourgeois, County of Richmond.	About 40 miles of sea-coast. Average value per annum, $100,000. Mackerel, herring, codfish, haddock, alewives and lobsters.
D. Grucery & Son, Descousse, County of Richmond.	District of Descousse, south side St. Peter's Bay, about 10 miles in extent. Herring, mackerel, codfish and haddock; quantity limited, quality fair.
Alfred Lenoir, Arichat, County of Richmond.	Their extent is large and valuable, over $168,180. The fish caught are mackerel, 1,215 brls.; herring, 4,929 brls.; alewives, 163 brls.; cod, 15,620 quintals; haddock, 1,901 quintals; lobsters, 279,040 cans.
Allan McQuarrie, Sherbrooke, St. Mary's, Guysboro'.	Extensive and valuable; about $100,000. Fish caught are salmon, mackerel, herring, alewives, cod, pollack, hake, haddock, halibut, trout, smelts, eels and lobsters; all of good quality.
William Cameron, Guysboro', County of Guysboro'.	The whole coast, value about $370,000 per annum. Salmon, 9,000 lbs.; mackerel, 6,000 brls.; herring, 18,000 brls.; alewives, 2,000 brls.; cod, 21,000 cwt.; haddock, 10,000 cwt.; halibut, 7,000 lbs.; squid, 3,500 brls.; smelts, 16,000 lbs.; and lobsters, 500,000 cans; quality good.
G. Rowlings, Musquodoboit Harbour, County of Halifax.	In this district there are cod, 16,558 quintals, value, $66,230; herring, 3,170 brls., value $11,095; mackerel, 560 brls., value $3,160; haddock, 1,000 quintals, value $4,000; halibut, 10,000 quintals, value $500; hake, 100 quintals, value $400; and lobsters, 5,454 cases, value $52,358; all of good quality.
W. M. Solomon, Lunenburg...	Fisheries extend along the whole county, valued at $1,496,115, consisting of cod, haddock, hake, halibut, mackerel, herring, squid, lobsters and others, all of superior quality.
D. Evans, Chester do ...	Important fisheries of great extent and value. Cod, mackerel, haddock, hake, pollack, herring, squid, alewives, salmon, trout, eels, smelts, lobsters and scallops, of very best quality.
Thomas Day, Liverpool, County of Queen's.	Extend the whole length of the county; annual value about $200,000, consisting of herring, mackerel, cod, alewives, pollack, hake, haddock, halibut, lobsters, and all other kinds of sea fish.

QUESTION No. 1—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Wm. J. McGill, Shelburne....	Fishing grounds extend the whole length of the county. Large quantities are taken, such as cod, halibut, haddock, lobsters, mackerel, herring, &c., all of excellent quality.
S. O. Parker, Yarmouth.....	Around Tusket Island and River. Cod, haddock and pollack, about 3,575 quintals; mackerel, 3,900 brls.; herring and alewives, 1,000 brls.; and lobsters, 600,000 lbs.
J. A. Hatfield, Tusket, County f Yarmouth.	Sea fisheries in this county valued at $700,000, consisting of mackerel, 8,000 brls.; cod, 3,700 cwt.; pollack, 3,500 cwt.; haddock, 3,800 cwt.; halibut, 225,000 lbs.; lobsters, 20 tons alive and 175,000 cans; quality good.
Parker, Eakins & Co., Yarmouth.	Fish caught along the coast, consisting of cod, haddock, pollack, hake, ling, mackerel, herring and lobsters,
J. R. Kinney, Yarmouth.....	The fisheries consist of cod, lobsters, mackerel and herring.
J. W. Cossaboom, Rossway, County of Digby.	Part of the Bay of Fundy, and all kinds of sea fish are caught around here.
W. M. Bailey, Round Hill, County of Annapolis.	Bay of Fundy coast and Annapolis Basin. Salmon, 7,190 lbs.; bass, 2,500 lbs.; alewives, 610 brls.; cod, 5,512 cwt.; haddock, 5,077 cwt.; pollack, 1,857 cwt.; halibut, 34,195 lbs.; herring, smoked, 21,000 boxes, pickled, 11,228 brls.; shad, 1,150 brls.; lobsters, 48,160 in number, weighing about 2 lbs. each; all of good quality.
J. S. Miller, Canning, County f King's.	About 75 miles of coast on the Bay of Fundy, value $45,000 to $50,000 annually. Salmon, mackerel, cod, herring, pollack, haddock, shad, halibut and lobsters; the quality is good.
P. S. Burnham, Windsor, County f Hants.	The fishery is not extensive, only shad is taken, but it is of a good quality.

NEW BRUNSWICK.

Henry Murry, Buctouche, County of Kent.	Cod, good but small; mackerel, fair; hake and ling, large; herring caught in spring used for lobster bait and home consumption.
Charles Cormier, Cocagne, County of Kent.	Mackerel, herring, alewives, codfish, salmon, smelts, bass, trout, eels, lobsters, oysters and clams, all of good quality. The quantity taken is valued about $74,000.
Henry O'Leary, Richibucto, County of Kent.	Salmon, codfish, hake, ling, herring, mackerel, smelts, lobsters, in large quantities.
Robert Goodwin, Baie Verte, County of Westmoreland.	Seventy miles of coast line on north side, thirty miles on south side of county, all fair fishing ground. 14,000 brls. of herring and 586 brls. of shad, 500 brls. of mackerel and a small quantity of cod.
Thomas Barry, Lower Falls, County of Charlotte.	Hake, haddock, pollack, cod, herring, sardine herring taken in large quantities.
Bartholomew Brown, Campobello, County of Charlotte.	Fish valued at about $23,466.

QUESTION No. 1—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
D. F. Campbell, St. Andrew's, County of Charlotte.	Lobsters, herring, mackerel, sardines and bait, valued at about $20,000.
Frank Todd, St. Stephen, County of Charlotte.	Very extensive and valuable. All kinds of fish are caught.
Joseph O'Brien, St. John, County of St. John.	Herring, cod, haddock, hake, and other sea fisheries to the value of $160,000.
E. V. Rourke, St. Martin's, County St. John.	Salmon, codfish, pollack, haddock, hake, shad, mackerel, herring and lobsters, in fair quantities.
Sutherland Stewart, Alma, County of Albert.	Shad fishing good.
James Hickson, Bathurst, County of Gloucester.	Very extensive, Baie des Chaleurs; value, about $200,000. Salmon, 9,000 lbs.; mackerel, 500 brls.; herring, 3,000 brls.; alewives, 300 brls.; smelts, 300,000 lbs.; lobsters, 200,000 lbs., of the first quality, and about 1,000 brls. for bait.
J. G. Williston, Bay du Vin, County of Northumberland.	Eighty miles sea-coast. Salmon, mackerel, shad, bass, alewives, herring, lobsters, cod and hake abound in fine quality.

PRINCE EDWARD ISLAND.

Daniel Davies, Murray Harbour, County of King's.	Yes; the fishery grounds range from Cape Sharp, about five miles distant, to the Woody Islands. The fish caught are cod, haddock, hake, mackerel, herring and lobsters.
R. Robbler, Miminegash, County of Prince.	Yes; lobsters, say $350,000, codfish $1,000, mackerel $100,000.
J. H. Myrick, Tignish, County of Prince.	Yes; valuable fisheries extend from Cape Egmont to New London Head. Cod, ling or hake, haddock, mackerel, herring, alewives, shad, bass, salmon, smelts, eels, &c.
A. F. Larkin, County of Prince.	Yes, of considerable extent, valued about $500,000. Herring, cod, hake, mackerel, lobsters, trout, salmon, alewives, smelts and eels.

QUEBEC.

Baie des Chaleurs, County of Bonaventure:

J. A. Verge, Cross Point, County of Bonaventure.	None.
J. L. Smith, New Carlisle, County of Bonaventure.	Yes. Salmon, cod and herring are the principal kinds of fish taken in this division. About 10,300 lbs. of the former, 6,200 cwts. of cod, and 27,500 brls of the latter.
Geo. Romeril, fish dealer, Paspebiac, County of Bonaventure.	Yes, the most important of which is the Miscou or Orphan Bank, about 70 miles area. The total value of the fisheries of this county is about $200,000, comprising about 30,000 qtls. of cod, and about 1,000 tons of herring, mackerel, smelts, caplin, lobsters, salmon, trout, &c.

Off Gaspé county coast:

G. T. Annett, Peninsula, County of Gaspé.	Yes; sea fisheries are found all along the coast of Gaspé county as follows: Halibut, herring, cod, haddock and mackerel, valued at over $500,000.

QUESTION No. 1.—QUEBEC—*Continued.*

Off Gaspé county coast—Continued.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
A. E. Collas, Gaspé	Yes; sea fisheries extend over 200 miles of coast, as well as banks of an area of about 150 miles. The total yield may be valued at $400,000, and consist chiefly of about 19,000 tons of green cod; herring and other kinds of fish, mackerel, smelts, caplin, lobsters, salmon and other fish are taken in smaller quantities.
Alexander & Co., fish dealers, Pt. St. Pierre, County of Gaspé.	Yes; nearly all the inhabitants of this vicinity are fishermen. Cod is the staple fish here. About 100 boats, two men in each, average about 70 qtls. during the season on the banks lying outside Gaspé Basin. The catch of salmon has been small for the last few years.
Jos. Lemieux, Mont Louis, Gaspé.	There are no fishing banks in his district.
Jos. I. Letourneau, Ste. Anne des Monts.	Yes; cod, herring, salmon and halibut are taken all along the 42 miles of coast fronting on my division.
Johnny Joncas, Matane, County of Rimouski.	Cod and herring. The former on a small scale, carried on during the fall by the farmers.
Nap. Levesque, Isle Verte, County of Temiscouata.	Yes; the sea fisheries are valued at about $8,000, and consist of 2,500 brls. of herring, 20 brls. of shad, 36 brls. of salmon, 850 brls. of sardines, also sturgeon, eels and coarse fish.
Ulysse Bhereur, Murray Bay, County of Charlevoix.	Yes; 15 brls. of herring, 8,392 brls. of caplin, 1,186 brls. of salmon, 452 brls. of sardines, and 46 brls. of eels.
	North shore:
N. A. Comeau, Godbout, County of Saguenay.	Yes; sea fishing is prosecuted all along the 175 miles of coast of his division. The total yield may be valued at about $17,000, comprising cod, herring, salmon, halibut, trout and mackerel, also a few seals and porpoises.
Théotime Mignault, Moisie ...	Yes; about 8,300 fathoms of salmon nets are used in his division, taking 225,000 lbs. of salmon.
Gaspard Mathurin, Washeecootai.	About 635 fathoms of salmon nets and 20 fathoms of seines are used in his division. Forty barrels of salmon were taken, also 65 quintals of cod.
John Legouvie, St. Augustine Division.	Nil.
	The whole Gulf Division, comprising the counties of Bonaventure, Gaspé and Saguenay:
Wm. Wakeham	Yes; county of Bonaventure, 85 miles of coast; value of yield of fisheries, $300,000. Gaspé, 320 miles of coast, value of fisheries $750,000; and Saguenay, 740 miles of coast, value of catch, $600,000. The principal kinds of fish making up the above aggregate value of $1,650,000 are: Cod ..... 200,000 cwt. Halibut .... 100,000 lbs. Haddock ... 2,000 cwt. Smelt ..... 80,000 lbs. Salmon .... 600,000 lbs. Lobsters .. 1,000,000 lbs. Trout ..... 25,000 lbs. Seals ..... 30,000 skins Herring ... 10,000 brls. Fish oil ... 230,000 galls. Mackerel... 5,000 brls. Bait ..... 50,000 brls. and others.

QUESTION No. 2.—*How much fish is consumed in the neighbourhood of the fishing grounds by the inhabitants, and what quantities are sold in a fresh state? How much is consumed in Canada?*

NOVA SCOTIA.

(NOTE—For addresses and counties *see* answers to Question No. 1.)

FISHERY OFFICERS AND OTHERS.	ANSWERS.
R. J. Pollock	All are consumed fresh, with the exception of salmon, shad and herring, which are sent to the United States.
John D. McQueen	A large proportion of herring caught is used for lobster bait; the remainder sold within the county fresh. Salmon and cod are consumed in Canada. Some lobsters are shipped to other countries.
John McDonald	Lobsters, salmon and about 50 per cent mackerel are shipped canned or sent fresh in ice to United States market, and about 40 per cent of other kinds are consumed in the county.
C. Robin, Collas & Co.	3,000 qntls. codfish, 600 brls. herring, 200 brls. mackerel, 200 brls. eels, 5,000 lobsters, 1,000 lbs. fresh salmon, 1,000 lbs. halibut, and 100 qntls. haddock are used yearly by the inhabitants; 100,000 lbs. lobsters and 9,000 lbs. salmon are sold fresh.
James Coady	About 500 brls. fresh herring and about 300 qntls. codfish consumed by the inhabitants. There are also about 20 brls. mackerel, 200 qntls. codfish and about 1,000 brls. herring consumed at home.
David Ross	About 3,000 qntls. of fish consumed in the neighbourhood. About 12,000 lbs. fresh salmon sold to the United States. Very little fish consumed in Canada.
D. F. McLean	About one-half of the whole catch consumed in the neighbourhood; one-hundredth part is sold fresh, and one-fifteenth part is sold in Canada.
Lewis McKeen	About one-tenth of total catch consumed in the neighbourhood; about $3,000 sold fresh, and about one-twentieth part is consumed in Canada.
R. E. Burke	About 1,500 qntls. cod and 1,200 brls. herring are consumed in the neighbourhood; none sold fresh to outside towns.
W. Bingham	About 2,360,000 lbs.; none are sold in a fresh state, they are shipped to Halifax and re-shipped to the West Indies and elsewhere.
R. G. Zwicker	About four-fifths are sold in a fresh state, about one-fifth consumed in Canada.
J. W. Burke & Sons	About 5 per cent is consumed by the fishermen; nearly all the fish is sold fresh, with the exception of herring and mackerel, which are pickled; about 5 per cent consumed in Canada.
Wm. Burke	About 100 qntls. codfish, 100 brls. herring, 5,000 lbs. halibut, and 1,000 lbs. of salmon are consumed in this district. The greatest portion is shipped to Halifax for exportation.
F. W. Bissett	About one-fifth herring and one-twentieth of codfish consumed in the county; only a few barrels of mackerel and herring sold fresh; a very small quantity consumed in Canada.

QUESTION No. 2—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
D. Grucery & Son	About 120,000 lbs. consumed in the neighbourhood ; a very small quantity sold fresh.
Alfred Lenoir	Quantity consumed in the neighbourhood : 2,350 brls. herring, 1,763 qntls. cod, 1,175 qntls. haddock, and about 3,100 brls. fresh herring used for bait ; extra, 1,000 qntls. fresh cod consumed in summer season.
Allan McQuarrie	About 5 per cent of total catch consumed in the neighbourhood ; only salmon sold in a fresh state, and about 25 per cent consumed in Canada.
Wm. Cameron	Estimated at $25,000 consumed in the neighbourhood ; sold fresh, $140,000. The larger quantity is sent to the foreign market.
G. Rowlings	About one-twentieth consumed at home, about the same sold fresh, and about one-eighth of the whole catch consumed in Canada.
W. M. Solomon	Consumption about 3 per cent of the entire catch, and about 5 per cent sold fresh ; little or none consumed in Canada.
Thomas Day	Herring and mackerel sold fresh for bait from the harbour was about $1,400.
Wm. J. McGill	2,200 brls. herring, 1,646 cwt. dry fish, 2,932 cwt. fresh fish consumed by the inhabitants ; 70 cwt. fresh halibut and 3,240 cwt. live lobsters exported to the United States.
S. O. Parker	250 brls. herring, 400 qntls. pollack, 25 brls. alewives, one-half the mackerel and all the lobsters are sold fresh in the United States ; very few are consumed in Canada.
J. A. Hatfield	Estimated at 1,000 qntls. dried fish, 1,000 brls. herring, 250 brls. alewives, 250 brls. mackerel, all salt. About 5 per cent sold fresh for home consumption.
Parker, Eakins & Co.	None to speak of are sold fresh, and none sold in Canada
J. R. Kinney	All lobsters and spring mackerel are shipped to the United States and West Indies.
J. W. Cossaboom	A large quantity of fish is used, but it is impossible to say how much.
W. M. Bailey	About 1 per cent of deep-sea fish consumed in the neighbourhood ; also, all the salmon, fresh bass, 50 per cent of shad, and about 30 per cent of haddock. About 50 per cent consumed in Canada.
J. S. Miller	Large quantities are sold fresh all over the county. Herring and dry fish are sent to the West Indies, and about one-half the haddock are used at home.
S. P. Burnham	On an average, probably 50 brls. salt fish and 150 brls. of fresh fish, and about 50 brls. consumed in Canada.

NEW BRUNSWICK.

Henry Murry	Sold in small quantities. All.
Charles Cormier	$8,000 worth of fish consumed in neighbourhood. $66,000 fish sold fresh, of which $16,000 consumed in Canada.

QUESTION No. 2—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Henry O'Leary.....	Consumed in neighbourhood, 3 per cent. Mackerel and smelts sent to United States and lobsters principally to Europe.
Robert Goodwin.....	One-fourth consumed by inhabitants; one-fourth sold in a fresh state; half used as bait. All consumed in Canada, with the exception of about 50 barrels shad, shipped to United States.
Thomas Barry.....	Consumed in Canada, except salmon which is shipped to United States
B. Brown.....	150 qntls. consumed by inhabitants; 1,000 qntls. haddock sold fresh. All consumed in Dominion.
F. D. Campbell.....	Greater portion sent to United States, remainder consumed in neighbourhood.
Joseph O'Brien.....	One-fourth part are sold in neighbourhood, remainder exported, both fresh and pickled, to West Indies and United States.
E. V. Rourke.....	Two-thirds consumed in district; one-third exported fresh.
S. Stewart.....	Mostly consumed near fishing grounds. All consumed in Canada.
James Hickson.....	One-fourth consumed in neighbourhood; one-fourth to Montreal and remainder to United States.

PRINCE EDWARD ISLAND.

Daniel Davies.....	About one-half is consumed locally, the remainder is cured or partially so.
R. Robbler.....	Salt and fresh fish consumed in this county about $150,000. No fresh fish shipped, carriage being too slow.
J. H. Myrick.....	All fish caught is consumed by inhabitants, except mackerel which is exported. The principal part of catch is cured.
A. F. Larkin.....	A large consumption, chiefly cod and hake; the herring is used as bait and food. Large quantities of mackerel, smelts and eels exported fresh to United States.

QUEBEC.

J. A. Verge.....	About 10,000 lbs of fresh salmon, trout and smelts are used for local consumption in his district.
J. L. Smith.....	4,560 barrels of fish were used in this division last year. The quantity sold fresh not known.
George Romeril.....	About 100 tons, chiefly of codfish, are consumed by the inhabitants, and none is disposed of fresh, except salmon, trout and smelt of which about 100 tons are used in Canada.
G. T. Annett.....	The local consumption would be about 8,000 barrels, sold fresh about 400 barrels. The average consumed by fishermen's families would be about 3½ barrels.
A. E. Collas.....	About 200 tons chiefly of cod are consumed by the inhabitants. With the exception of salmon and smelts, very little fish is sold fresh.

QUESTION No. 2—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Alexander & Co.....	Cannot state the quantities. Most of the fish consumed by fishermen are herring which is prepared as a winter fish. Cod is all sold to fish merchants, who cure it for foreign markets.
Joseph Lemieux.....	About 8,000 barrels in this county and about 12,000 lbs. in Quebec and Montreal.
J. I. Letourneau.....	882 barrels used by the inhabitants and 6,160 qntls. of green cod sold.
Johnny Joncas.....	All fish is used for home consumption.
Nap. Levesque.....	About one-third of the catch is consumed by the inhabitants of the neighbourhood, another third sold fresh used in Canada, and the balance shipped fresh to United States markets.
U. Bhereur.....	All fish consumed in Canada. All sold fresh except eels which are salted.
N. A. Comeau.....	About 300 barrels of mixed fish would be used for home consumption. About $3,500 worth of salmon, trout and halibut were sold fresh last season. Most of the fish shipped to Quebec market, probably all consumed in Canada.
Theo. Mignault.....	77 barrels of salmon were used by the settlers, and about 250,239 lbs. of salmon and halibut were sold fresh last year.
G. Mathurin.....	About 6 barrels of fish were used by the inhabitants of the localities.
John Legouvie.....	Nil.
Gulf Division :	
Wm. Wakeham.....	About 25,000 barrels of fish consumed on the coast. Only salmon, trout, smelt, and lobsters are sold fresh, $\frac{9}{10}$ of which goes to United States markets, except lobsters, which are mostly shipped to England. Mackerel is exported in about the same proportion. Cod about 10,000 cwt. sold in Canada, balance exported to foreign ports.

QUESTION No. 3.—*How much dried or pickled fish, product of our fisheries, is consumed in Canada, and what quantities and kinds are exported to foreign countries, and to what countries ?*

NOVA SCOTIA.

NOTE—For addresses and districts *see* answers to Question No. 1.

R. J. Pollock.....	The entire product of dried herring, 2,000 boxes, about 300 barrels of shad and 2,500 lbs. of salmon are marketed in Boston.
J. D. McQueen.....	Most of the fish is consumed within the county. Lobsters are shipped to England and the United States.
John McDonald.....	Some dried and pickled fish are shipped to Halifax. Fresh salmon and 50 p.c. mackerel are packed in ice and shipped to Halifax and United States. Lobsters canned for export.
C. Robin, Collas & Co.....	Unable to furnish the required information.

QUESTION No. 3—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
James Coady	About 500 quintals of fresh codfish sent to Truro, New Glasgow, Halifax, Moncton and St. John. Also about 2,000 barrels mackerel and 300 barrels herring exported to United States.
David Ross	Very little dried and pickled fish consumed in Canada, but is exported to the following places:—Brazil, West Indies and Naples, mackerel to United States and lobsters to England.
D. F. McLean	About one-thirtieth part of whole catch consumed in Canada, the remainder consisting of mackerel, herring, salmon, cod, haddock, hake, lobsters, and eels are sent to the West Indies, United States and Europe.
Lewis McKeen	About one-fifteenth part consumed in Canada, the remainder is exported to the West Indies, United States and Europe.
R. E. Burke	Dry cod to West Indies. Pickled cod, mackerel and salmon to the United States.
W. Bingham	Salmon, herring, mackerel, cod, haddock and alewives are all shipped to Halifax, and reshipped to Montreal, West Indies and Europe.
R. G. Zwicker	About one-fifth consumed in Canada, and the remainder consisting of cod, mackerel and salmon are exported to United States, West Indies and South America.
J. W. Burke & Sons	About $\frac{1}{5}$ is consumed in Canada; the remainder is exported, chiefly to United States, West Indies, Brazil, &c. Lobsters are chiefly sent to Europe.
William Burke	Consumption of fish in Canada not known. Codfish, haddock, herring, mackerel and salmon also canned; lobsters are exported to foreign countries.
F. W. Bissett	Fish exported are cod, haddock, herring, mackerel, alewives and lobsters to United States, West Indies, South America and Europe.
D. Grucery & Son	Canadian consumption of fish not known. About 10,000 cwt. of herring, alewives, cod and haddock are sent to Halifax for exportation to the United States, West Indies and South America.
Alfred Lenoir	About 3,500 quintals of dry fish and 2,350 barrels of pickled fish consumed in this division, and 6,600 quintals of dry cod and haddock are exported to West Indies, South America and European markets.
Allan McQuarrie	About 10 per cent consumed in Canada, 30 per cent of salmon, mackerel, herring and lobsters are sent to the United States; the remainder are sent to the West Indies, South America and Great Britain.
G. Rowlings	About one-eighth consumed in Canada, the remainder shipped to West Indies.
W. M. Solomon	About 5 per cent consumed in Canada. 60 per cent mackerel, 20 per cent herring, and 5 per cent cod are sent to United States, the balance is sent to the West Indies (British and Spanish).

QUESTION No. 3—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Thomas Day	Cod, herring, mackerel, salmon and canned lobsters are exported to the United States, West Indies and Great Britain.
W. J. McGill	Consumed in Canada, 4,236 cwt. cod, 2,287 cwt. scale fish, 818 brls. mackerel, and 5,230 brls. herring. Exported to the West Indies: 29,158 cwt. cod, 4,503 cwt. scale fish; 166 brls. mackerel, and 1,935 brls. herring. To United States: 572 cwt. cod, 49 brls. mackerel and 601 brls. herring.
S. O. Parker	Salted mackerel sent to the United States. Dried fish and 4,250 qntls. fish from the Banks are sent to the West Indies and European markets.
J. A. Hatfield	Principal part is consumed in Canada; remainder sent to the United States and West Indies.
Parker, Eakins & Co.	About 2,000 quintals dry fish shipped to St. John for distribution in Canada. Dry haddock, pollack and ling are exported to the United States and West Indies. Value, cod, $4.75; haddock, $3.25, hake, $2.25; and pollack, $2.50 per quintal. Herring, $3 per brl.
J. R. Kinney	Dried cod are exported to the West Indies and United States, more fish being sent to the United States on account of better prices being realized.
J. W. Cossaboom	Hake, haddock, small codfish, small mackerel and pickled herring are exported to the West Indies in large quantities.
W. M. Bailey	About 50 per cent consumed in Canada; the remainder is exported to the United States, West Indies and South America.
J. S. Miller	About half is consumed in Canada; the remainder shipped to the West Indies and United States. 2,482 qntls. cod and 3,453 brls. herrings cured. Cod worth $4 per qntl.; shad, $10 per brl.; herring, $3 to $6 per brl.; salmon, 10c. per lb. here; in Boston, from 25c. to 50c. per lb.
S. P. Burnham	Only about 25 brls. of shad.
NEW BRUNSWICK.	
C. Cormier	$5,000 dried and pickled fish consumed. None exported.
Henry O'Leary	All consumed in Canada.
Robert Goodwin	All consumed in Canada, with the exception of about 50 brls. of shad shipped to the United States.
Thomas Barry	Not much consumed in Canada. Large quantities shipped to West Indies and the United States.
B. Brown	Half consumed in Canada, the remainder sent to the United States.
Joseph O'Brien	Half consumed in Canada, the remainder exported to the West Indies.
Jas. Hickson	Quarter consumed in Canada, remainder exported to United States and Europe.
PRINCE EDWARD ISLAND.	
Daniel Davies	About 6,000 qntls. are exported, and as many more for local consumption.

QUESTION No. 3—PRINCE EDWARD ISLAND—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. H. Myrick	Say 50 per cent of cod, hake and haddock ; 75 per cent herring ; 1 per cent mackerel, consumed in Canada. Mackerel exported to the United States and the other kinds to West Indies.
A. T. Larkin	No export from this county to the other provinces. Considerable quantity of pickled mackerel exported to the United States.

QUEBEC.

J. A. Verge	No dried or pickled fish is exported from his district.
J. L. Smith	The quantity of dried fish consumed in locality is not given, but 56,745 quintals of cod was exported last year to Brazil, Portugal, Italy, Jersey Islands and Barbadoes.
Geo. Romeril	About 500 tons of dried and pickled fish are consumed in Canada, and 1,500 or 2,000 tons of cod, &c., are exported to Brazil, Portugal, Italy and West Indies.
G. T. Annett	Cannot say.
A. E. Collas	About 700 tons of their dried and pickled fish used in Canada, and 3,700 tons of cod yearly exported to Brazil, Portugal and West Indies.
Alexander & Co.	Cannot say how much is consumed in Canada ; from that locality most of the yield is exported to Brazil and Mediterranean ports.
Joseph Lemieux	20,000 quintals of dried cod were exported to the foreign markets of Italy, Spain, Jersey Islands, West Indies and Brazil.
J. I. Letourneau	About 100 quintals used here, and about 1,900 quintals exported to Europe and Brazil.
Johnny Joncas	No dried or pickled fish in his district.
Nap. Levesque	About 300 barrels of herring are pickled here and mostly used in Canada.
U. Bhereur	None except eels ; about 50 barrels.
N. A. Comeau	Nearly all the pickled fish is used in Canada. Dried cod is the only fish shipped to foreign markets, viz., to South America and West Indies.
Théo. Mignault	2,128 quintals of cod were shipped to Brazil last season from this division ; the catch of halibut, trout and salmon was sent to Quebec markets and United States.
G. Mathurin	65 quintals of codfish were sold to Collas, Robin & Co., to be shipped to European ports.
John Legouvie	Nil.
	Gulf Division :
Wm. Wakeham	About 20,000 cwt. of cod sold in Canada, exclusive of local consumption ; the balance and 90 per cent of all other fish, except herring, is exported.

QUESTION No. 4.—*State the price of the different kinds and qualities of fish at or near the fishing grounds; the prices when prepared for exportation and when delivered in the markets to which they are sent, respectively.*

NOVA SCOTIA.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
R. J. Pollock	Alewives, $1 per cwt.; cod, 5c. per lb; halibut, 6c. per lb.; herring, $5 per barrel; shad, $12 per barrel; at United States market, $16 per barrel; salmon, 10c. per lb. when caught and 20c. in the same market.
J. D. McQueen	Prices vary owing to quantities of fish taken; herring, 15c. per doz.; cod, 6c. per lb.; salmon, 15c. per lb.
John McDonald	Lobsters, 75c. to $1 per 100 lbs.; salmon, 10c. per lb.; mackerel, 3c. to 5c. each; cod, 1½ per lb.; hake, 1c. per lb.; herring, $1.50 per barrel fresh. Prices when prepared for exportation:—Lobsters, $5 to $7 per case of 4 doz.; salmon, 14c. per lb.; cod, $5 per cwt.; hake, $3 per cwt.; haddock, $3 per cwt.
C. Robin, Collas & Co.	Fish fresh from the grounds:—Cod, 1c. per lb.; haddock, ½c. per lb.; salmon, 10c. per lb.; halibut, 4c. per lb.; herring, 1⅛c. per lb.; mackerel, 5c. per lb.; lobsters, 2c. each; eels, $2.50 per barrel; squid, 30c. per 100; hake, ½c. per lb.
James Coady	Mackerel, No. 1, $14 per barrel; mackerel, No. 2, $12; mackerel, No. 3, $9 per barrel; spring herring, $3, and summer fish, $5 per barrel; crayfish, 2c. per lb.
David Ross	Salmon, 8c. per lb.; cod, fresh, $1.10; when dried, $4.75 per quintal; mackerel, $12 per barrel; lobsters, 60c. per 100, fresh. For exportation when delivered:—Cod, $6; mackerel, $16 per barrel; lobsters, about $7 per case.
D. F. McLean	At fishing grounds, salmon $12 per barrel; mackerel, $10 per barrel; herring, $4 per barrel; alewives, $4 per barrel; cod, $3 per cwt.; haddock, $2 per cwt.; hake, $2 per cwt.; halibut, 5c. per lb.; trout, 10c. per lb.; squid, $3 per barrel; smelts, 5c. per lb.; eels, $6 per barrel; lobsters, $1 per cwt. For exportation:—Salmon, $14 per barrel; mackerel, $12; herring and alewives, $5 per barrel; cod, $4.50 per cwt.; haddock and hake, $3 per cwt.; eels, $7 per barrel; lobsters, 15c. per lb. cans.
Lewis McKeen	Salmon $12, mackerel $10, alewives $4 and herring $3.50 per barrel; cod $5, haddock and hake, $2 per cwt. When prepared for exportation:—Salmon $15, mackerel $12, alewives $5 and herring $4.50 per barrel; cod $4.50, haddock and hake, $3 per cwt.
R. E. Burke	Fresh cod, 1⅙c. per lb.; mackerel, 6c. per lb.; salmon, 6½c. per lb.; herring, 1¾c.; haddock, ¾c. per lb.; when dried—cod, $4 per quintal; mackerel, $13.60 per barrel; salmon, $14.60 per barrel; herring, $5; haddock, $2.85 per cwt. When exported add $1 per barrel on above for expenses.

QUESTION No. 4—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
W. Bingham.....	Spring herring, $1 to $1.50 per barrel sold as bait. Summer herring for exportation, $4 per barrel; delivered in market, $5; salmon, $15; in market, $16 per barrel; cod, $4; in market, $4.50 to $5 per quintal; haddock, $3; in market, $3.50 per quintal; mackerel, $13; in market, $14 per barrel; alewives, $4; in market, $4.50 per barrel; squid for bait varies frem 20c. per 100 to $4 per barrel.
R. G. Zwicker.....	Cod from $2.50 to $4 per quintal; mackerel, $6.10 to $14 per barrel; herring, $3 to $4.50 per barrel; salmon, $8 to $16 per barrel; when delivered in market—cod, $3 to $5.25 per quintal; mackerel, $7 to $23 per barrel; herring, from $3.50 to $5 per barrel; salmon, $10 to $24 per barrel, owing to the price of the market.
J. W. Burke & Co.....	Codfish when caught, $3.50 to $4 per quintal of 300 lbs. green, equal to 112 lbs. dry; herring, $4 to $4.25 per 200 lbs.; large mackerel, quality No. 3, $6; No. 3, large, $7; No. 2, $8 to $9; No. 2, large, $9 to $11; No. 1, $12 to $15; extra No. 1, $18 to $21.
Wm. Burke.....	Codfish, $4 per quintal; haddock, $3 per cwt; mackerel, $10 per barrel; salmon, $15 per barrel at the fishing grounds or in Halifax market.
F. W. Bissett.....	Average prices on grounds:—Cod, $4 per quintal; mackerel, $7 per barrel; herring, $4 per barrel; alewives, $3 per barrel; haddock, $2.50 per quintal; when exported, 50c. per quintal or barrel extra.
D. Grucery & Son.....	Prices vary. Codfish about $4 per quintal; haddock, $3 per quintal; mackerel varies, according to quality, from $6 to $15; herring, $4; alewives, $3.50; pickled fish when prepared for market are worth $1 more per barrel, according to the market.
Alfred LeNoir.....	Salmon, 10c. per lb.; spring mackerel $7, fall mackerel $13, herring $4, alewives $3, dry cod $4.25, and haddock $3.25 per barrel; smelts, 2c. per lb.; hake, 3c. per lb.; lobsters, $2 per 100; about 75c. extra when packed for the foreign market.
Allan McQuarrie.....	At the fishing grounds—Salmon, 10c. per lb.; mackerel, $10 per barrel; alewives, $4 per barrel; herring, $3.50 to $5 per barrel; cod, hake, haddock and pollack, from $2.50 to $4.50 per cwt.
William Cameron.....	Herring, $1.25 per 100 fish, fresh; $4 per barrel at fishing grounds; $4.50 delivered in Halifax; $5.50 in Montreal; $6 in Boston; mackerel, 5c. to 10c. each, fresh; $8 to $18 per barrel, salt, at fishing grounds; $11 to $21 per barrel, Boston; haddock, ⅔c. per lb., fresh; $3 per cwt., dry; $3.50, Halifax; $3.75, Boston; alewives, 1c. each, fresh; $3 per barrel, salt; $3.50 at Halifax; salmon, 10c. per lb., fresh; squid, $5 per barrel, fresh, for bait.

QUESTION No. 4—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
G. Rowlings	Cod, $4.50 per quintal; herring, $4 per barrel; mackerel, from $6 to $12 per barrel; haddock, $3 per quintal; halibut, from 4c. to 5c. per lb.; hake, $4 per quintal; lobster, $1.50 per 100; same price at Halifax when they are all exported.
W. M. Solomon	Dry cod, about $4 per quintal; haddock, $3; hake, $2.50; mackerel, $6; herring, $3.50, quality good, 5 per cent to be added when ready for exportation, and about 25 per cent at place of delivery.
D. Evans	Mackerel, fresh, No. 3, $5 per barrel; small mackerel, $3 per barrel; fresh herring, $1 per barrel; squid, $3 per barrel; fresh salmon, 10c. to 75c. per lb.; lobsters, 2½c. each; scallops, 50c. per doz.; for exportation, hake and cod, $4.25 per quintal; haddock and herring, $2.50 per barrel; mackerel, No. 3, $7 per barrel: small mackerel, $5 per barrel; and alewives, $4 per barrel.
Thomas Day	Cod, $4 per quintal; herring, $4 per barrel; mackerel, $5 to $10 per barrel; salmon, 10c. to 50c. per lb.; lobsters, $2 to $6 per 100, as to size; foreign price not known.
W. J. McGill	Prices near fishing grounds—Cod, $1.50 per cwt.; herring, $1.50 per barrel; mackerel, $4 per barrel. When prepared for market—Cod, $4 per cwt.; herring, $3 per barrel; mackerel, $6 per barrel.
S. O. Parker	Cod, $4.70; haddock, $3.15; pollock and hake, $2.40 per cwt.; mackerel, $5 to $10 per barrel; herring, $3 to $3.50 per barrel; alewives, $4 to $4.50; live lobsters, $5 per 100: small lobsters, $1.50 per 100.
J. A. Hatfield	Fresh fish—Cod, 1c. to 1½c. per lb.; haddock, 75c. to $1 per cwt.; herring, $2 per barrel; mackerel, $5 per barrel. When prepared for exportation—Cod, $4 per quintal; haddock, $2.25 per quintal; mackerel, $7 per barrel.
Parker, Eakins & Co.	Fresh cod, $4.75; haddock, $3.25; hake, $2.25; pollock, $2.50 per quintal; herring, $3 per barrel; add 75c. per quintal and $1.25 per barrel to the West Indies, and 40c. per quintal and 50c. per barrel to the United States.
J. R. Kinney	Dried cod, $4 to $4.50 per quintal; pickled mackerel, $6 to $9 per barrel: fresh mackerel, 3c. to 9c. each; live lobsters, 3c. to 10c. each.
J. W. Cossaboom	Fresh halibut, $4 per cwt.; salt cod, $3 per cwt.; hake, $1 per cwt.; haddock, $1.25 per cwt.; lobsters, $5 per 100 count; mackerel, $4 per barrel; herring, $2.50 per barrel; smoked herring, 10c. per box.
W. M. Bailey	Prices vary; salmon from 15c. per lb. at times up to $1 per lb.; cod from $2.50 to $4.50 per cwt.
J. S. Miller	Cod, $4 per quintal; shad, $10 per barrel; herring, $3 to $4 per barrel; salmon, 10c. per lb.; at Boston it reaches from 25c. to 50c. per lb.
S. P. Burnham	Shad, $10 to $12 per barrel.

QUESTION No. 4—*Continued.*

NEW BRUNSWICK.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Henry Murry	Cod, $3 per cwt.; hake, $2, and herring, $1.50 per barrel; lobsters fluctuate.
Charles Cormier	Fresh herring, $1 per barrel; when prepared for exportation, $2; fresh mackerel, $6; export, $8; codfish, fresh, $1 per cwt.; dried codfish, $4; eels and bass, 4c. per lb.; smelts, 2c. per lb.; canned lobsters, 12c. per lb.
Henry O'Leary	Fresh mackerel, $5 per 100; prepared for export, $12 to $15 per 100.
Robert Goodwin	Fresh herring, $1.25 per 200 lbs.; cured as bait, $2 per 200 lbs.; pickled for export, $4 per 200 lbs.; mackerel, $10 per barrel; shad, $12 per barrel; codfish, $5 per cwt.; smoked herring, 50c. to 60c. per 100 fish.
Thomas Barry	Fresh sardine herring, 60c. per barrel; dried cod, $5 per barrel: pollack, $2.50 per quintal; haddock, $2 per quintal; smoked herring, 60c. per 100.
B. Brown	Sardines, $5 per hogshead; smoked herring, 8c. per box; herring, $3 per barrel; mackerel, $10 per barrel; codfish, $4 per quintal; pollack, $2 per quintal; hake, $2 per quintal; haddock, $2 per quintal; hake sounds, 12c. per lb.; lobsters, 2-lb. tins, 23c.
D. F. Campbell	Fresh herring, $4 to $5 per barrel; net herring, 50c. per 100; lobsters, $30 to $50 per ton.
Joseph O'Brien	Alewives, 50c. per 100.
S. Stewart	Shad, $10 per barrel.
Jas. Hickson	Salmon, 10c. per lb. on fishing grounds, 20c. to 35c. when exported; mackerel, $10 per barrel on grounds; $20 to $30 when exported; herring, $1.50 per barrel on grounds; $5 to $7 when exported; cod, $1.50 on fishing grounds; $4 to $8 when exported; smelts, 5c. per lb. when caught 15c. to 30c. per lb. when exported; lobsters, 4c. per lb. shelled; 12c. to 18c. when exported.
J. G. Williston	Salmon, $1 each; on the market, $1.50 to $2; lobsters, 3c. per lb.; for export, 8c. to 12c. per. lb.

PRINCE EDWARD ISLAND.

Daniel Davies	Direct codfish worth about $4 per quintal, hake and haddock from $2 to $2.50. No fresh fish are exported.
R. Robbler	Mackerel averaged $14 per brl. here; lobsters, $7 per case of 4 doz. 1-lb. tins; codfish, $4 per cwt.
J. H. Myrick	Fresh cod from $1 to $1.50 per 100 lbs. Large cod hake and haddock, 75 cents per 100 lbs. when prepared, cod from $3 to $4; hake and haddock $2 to $2.50. Mackerel fluctuates with the United States markets.

QUESTION No. 4—PRINCE EDWARD ISLAND—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
A. F. Larkin	Herring, $3 per brl. ; cod, $2.50 per quintal ; hake, $2.25 per quintal ; lobsters, 70 cents per 100 ; smelts, 4 cents per lb. ; eels, 4 cents per lb. ; mackerel, fresh, from $1 to $7 per 100, and from $6 to $18 per brl., at or near fishing grounds. Prices obtained for above entirely depend on the markets.

QUEBEC.

J. A. Verge	Salmon in ice from stations, 10 to 13 cents per lb. ; trout, 10 cents. When prepared and delivered in the markets, about double these prices.
J. L. Smith	Codfish, $2 per 238 lbs. When shipped to foreign countries it is worth from $4 to $5 per quintal.
Geo. Romeril	Cod are sold at the grounds for $2 or $2.50 for 238 lbs., and when dried and prepared for export from $4 to $5 per quintal, and when delivered in the markets from $5 to $6 per quintal.
G. T. Annett	Cod, $4 per cwt. ; halibut, $12 per brl. ; herring, $3 per brl. ; mackerel, $10 per brl. ; haddock, $3 per cwt., all of first quality near the fishing grounds.
A. E. Collas	Cod at the fishing grounds is rated at from $1.80 to $2.50 per draft of 238 lbs., fresh ; when prepared and dried, from $4.25 to $5.40 per quintal of 112 lbs., and when delivered at market from $5.25 to $6.50 per quintal.
Alexander & Co	Prices vary according to demand of foreign markets. Last year the best quality of codfish was $4.50 per quintal.
Jos. Lemieux	Cured cod sold for $4 to $4.50 per quintal according to quality.
J. I. Letourneau	Cod sells here at $3.50 per quintal. Market prices not known.
Johnny Joncas	Cod sells for $4 to $5 per brl. ; spring herring, $3 to $4, and fall herring at $5 to $6.
Nap. Levesque	At the fishing grounds. Prepared for market. Salmon, 10 cents per lb.. 10 cents per lb. Herring, $1 per brl. ... $3 per brl. Sardines, $3 " ..... $4 per brl. Shad, 5 cents per lb. ... Sturgeon, 6 cents per lb.
U. Bhereur	Eels, $9 per brl. ; sardines, $4 ; capelin, 25c. per brl. ; salmon, 10 cents per lb.
N. A. Comeau	Prices of fish vary according to supply. Cod No. 1, salted, $3 per brl. ; cod No. 2, $2.50 per brl. ; herring No. 1, $4 per brl., and No. 2 about $3 ; halibut, from $4 to $10 per brl. ; mackerel, from $5 to $15 per brl. Salmon, fresh, 6 cents ; and trout, 4 cents per lb. When delivered at markets an advance of 30 or 40 per cent is made on prices.
Theo. Migneault	Salmon sold for 7 cents per lb. ; trout, 5 cents ; fresh cod, $1.20 per cwt. ; dried cod, $4.50 per quintal, and herring No. 1, $5 ; halibut, 3 cents per lb.

QUESTION No. 4—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
G. Mathurin	Salmon sold for $12 per brl.; dried cod, $4 per quintal, and green cod for $3.50 per brl.
John Legouvie	Cod, $4.50 per quintal; salmon, $15 per brl.; herring, $5 in market.

Gulf Division:

	At Fishing Grounds.	Prepared for Exportation.	At Market.
Wm. Wakeham	Cod, $1.60 to $2 p. draft.	$3 to $5	$5 to $7.
	Salmon, 5c. to 25c. p. lb.	In ice, 10 to 30c.	10c. to 60c.
	Trout, 5c.	" 10c.	
	Mackerel, $5 to $20 p. brl.	$5 to $20 per brl.	$8 to $28.
	Herring, $3 to $5 p. brl.		$3.50 to $5.50.
	Smelts, 2c. to 5c. p. lb.		5c. to 25c. per lb.
	Lobsters, 50c. to $1 p. 100	12c. to 15c. per lb.	$6 to $9 per case.
	Seal skins, $1.25 apiece.		
	Oil, 30c. to 40c p. gall.		40c. to 60c. per gall.

QUESTION No. 5.—*Are some of those fisheries in a backward state, and if so, what obstacles impede their development, and what means are required to foster them?*

NOVA SCOTIA.

R. J. Pollock	Enterprising men keep up with the times.
J. D. McQueen	Herring and lobster fishing are prospering, cod is becoming scarce; salmon fishing is waning, as fall fishing was tolerated too long.
John McDonald	Lobster fishing is fairly good; salmon fishing is declining. The greatest obstacle the fishermen meet with is the scarcity of bait; do not know how it can be overcome.
C. Robin Collas & Co	The fisheries are backward owing to the scarcity of bait, which, for the last ten years, is brought from the westward of Halifax, consisting chiefly of clams, being very expensive to the fishermen. Two breakwaters are greatly needed, or Big Pond Lake should be opened for the protection of boats.
James Coady	I believe the fishermen are more prosperous to-day than they ever were, as the fish are fetching good prices and transit so easy.
David Ross	No; they are in a fair state.
D. F. McLean	Mackerel fishing is backward; fishing with purse-seines hitherto impeded their development. What means are now required to foster them is to see the law in this behalf carried out.
Lewis McKeen	Yes; mackerel and herring. Using purse-seines destroy them in large numbers and quantities. The necessary protection, as afforded by the present law in that connection.
R. E. Burke	A falling off in catch of salmon, spring mackerel and herring; these fish twine the shore closely. The prevalent opinion is, the scarcity of these fish may be attributed to the immense quantity of lobster pots fished on the grounds which the above fish frequent.

QUESTION No. 5—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
W. Bingham	All the fisheries along this coast are doing fairly well with the exception of salmon, which shows considerable decrease. Would recommend that young fry be placed in North River, St. Ann's, as the waters are well adapted for the culture of those fish. The Barasois River and Clyburn Brook are also appropriate streams for the reception and growth of young salmon.
R. G. Zwicker	Mackerel has improved this last three years, but cod is getting more scarce each year, partly for want of bait at the right season, and bank fishing affects the inshore fishing, keeping the fish off shore in the spring. Herring and salmon are also getting scarce each year.
J. W. Burke & Co.	All are fairly prosperous.
William Burke	Fishing is in a fair state ; cannot make any suggestions for improvement of fisheries.
F. W. Bissett	The scarcity of fish seems to be steadily increasing. The fishermen are very diligent and energetic in their calling.
D. Grucery & Son	Mackerel and herring fishing are in a backward state, owing to purse-seining, which prevent fish coming into bays. The only means to foster them is to abandon the purse-seine.
Alfred LeNoir	The fish along the shores are becoming scarcer each year. It is thought raising so many lobster traps and the decomposed fish disturb the bottom of the grounds.
Allan McQuarrie	Herring fishing is not flourishing, as the fish are spoilt in curing, the markets are diminishing, barrels are inferior, and size not adapted for home market, inferior salt, hauling in nets in the heat of the day, leaving the fish exposed until they get soft and flavour gone, which cannot be restored. Regulations for packages and net fishing at night would help to foster this fishery.
G. Rowlings	The herring and mackerel fishery are not so plentiful as they were eight or ten years ago, but cannot give any suggestion for improvement of same.
W. M. Solomon	Codfish is in a backward state owing to the scarcity of bait to catch them. The means to be employed to foster the industry would be not to extend the *modus vivendi.*
D. Evans	None are in a backward state ; the obstructions are removed by the energy of the fishermen.
Thomas Day	Salmon fishing shows a great falling off, due to the advances of civilization, also the ladders in poor condition on the dams across the river.
W. J. McGill	The cod fishing of late years has failed, owing, I suppose, to the great number of American fishermen trawling on this coast.
S. O. Parker	Very well developed.

QUESTION No. 5—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. A. Hatfield	Almost every department of the sea fishery is effectually worked. Last season the cod fishing was impeded by the unreasonable action of the Newfoundland Legislature with regard to bait. The natural supply of bait fish along our coast from Grand Manan to the Magdalen Islands is now more than sufficient for our own fishermen. In many instances the shore cod-fishing fleet are unable to obtain enough bait for them to continue their catch. To foster this industry our Government must rigidly preserve all our fresh fish for provincial fishermen.
Parker, Eakins & Co.	They are as good as ever they were, and there is no way of fostering or developing them.
J. R. Kinney	None of the branches are in a backward state.
James W. Cossaboom	I do not know of any being in a backward state.
W. M. Bailey	The herring fishery is not prosecuted in the manner it might be, the fishermen in most cases not having proper nets, boats, landing stages or packing houses; they have not the means of making it successful, each one fishing, curing and marketing his own fish; the same may be said with the deep-sea fisheries of this county.
J. S. Miller	Shad and herring have been poor of late years, but shad shows some signs of improving this last year.
S. P. Burnham	Shad fishing has been on the decline this past five or six years.

NEW BRUNSWICK.

Henry Murry	All are backward for want of capital.
Henry O'Leary	They are backward for want of suitable boats for the different fisheries.
R. Goodwin	Unable to sell to a foreign market, also unable to obtain proper salt for curing; but think they need instruction, as they are very slow to learn.
T. Barry	Fishermen say there is no market for their fish when caught.
F. D. Campbell	Lobster fishing is decreasing on account of taking small ones; nothing less than 10½ inch lobster should be taken, and should strongly advise making a close season for 2 or 3 years in this county, allowing them to accumulate.
F. Todd	On the whole they are generally prosperous. The great drawback is the duty on all fish sent to the United States, giving the fishermen no profit.
Joseph O'Brien	Herring fishery very backward, through wholesale destruction of young herring by the weirs; are of no value except for manure. Weirs should be arranged for the young to escape.
E. V. Rourke	The persons engaged are very poor, and devote some of their time to farming instead of following up the fishing industries.

QUESTION No. 5—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
S. Stewart	Shad fishing very backward on account of sawdust and refuse settling on the feeding grounds. Mill-owners should be prohibited from throwing their refuse in the river. Again, shad should not be caught till after 20th June, when spawning season is over.
Jas. Hickson	All prosperous except lobsters; the season for fishing them should be shortened.
J. G. Williston	Salmon not so plentiful. It is asserted, and seems correct, the hatcheries are breeding the wrong fish; instead of the fall run the parent fish should be captured in the May and June runs. Anglers also are killing the fish that should be protected for spawning.
PRINCE EDWARD ISLAND.	
Daniel Davies	The deep-sea fisheries are in a flourishing state, but boats are scarce.
R. Robbler	Steadily increasing. Miminegash stands in great need of a breakwater; if a few thousand dollars were expended, boats drawing 7 ft. of water could come in the run, which is one mile long.
J. H. Myrick	Yes, the majority of fishermen are land-owners, and divide their time between fishing and farming. Men are wanted here who would devote the whole of their time to this industry for favourable results.
A. F. Larkin	The men follow the lobster and mackerel fishing, and do not keep boats or gear for cod, hake and haddock. Lobster fishing might be fostered by furnishing an apparatus for saving the ova. Development of mackerel fishery depends on improved trade relations with the United States.
QUEBEC.	
J. A. Verge	There is no marked decrease in the fisheries of his district; the present regulations properly enforced are sufficient to maintain them.
J. L. Smith	The yield of the fisheries has averaged about the same for the last five years, salmon showing a slight decrease.
Geo. Romeril	Fisheries well developed, but scarcity of bait at times constitute the greatest drawback.
G. T. Annett	Yes, mackerel fishing is in a backward state, owing to the use of purse-seines by American fishermen He believes also that trawl fishing is injurious to cod fishery.
A. E. Collas	Fisheries well developed; greatest drawback is the occasional scarcity of bait.
Alexander & Co.	Nil.
Jos. Lemieux	Fishing has declined on the western coast of Gaspé owing to strong currents, scarcity of bait, and also to the numerous white whales (marsouins) frequenting our coast.

QUESTION No. 5—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Jos. I. Letourneau	Not to his knowledge.
Johnny Joncas	Knows of none.
Nap. Levesque	Generally the fisheries are in good state.
U. Bhereur	All in good state.
N. A. Comeau	The halibut is somewhat neglected for want of means to ship it to markets in a fresh state; few fishermen understand setting trawls for them; they mostly devote their time to cod fishing.
T. Mignault	No fisheries are neglected to his knowledge.
G. Mathurin	He thinks cod fishery is neglected.
John Legouvie	Nil.
	Gulf Division:
Wm. Wakeham	Yes. Lobster fishery, from over-fishing; now improving. Cod fishery, from scarcity of bait, destruction of bait fish for manure; herring, from bad methods of curing and barrelling; salmon, from over-fishing, destruction of spawn and fry by trout. To increase protection, keep trout out of salmon rivers, shorten fishing season, and gradually thin out nets. No change needed on the north coast.

QUESTION No. 6.—*What kind of boats and vessels, with their number and tonnage, clear from ports in your county to engage in the fisheries; and what kinds and number of vessels are required to carry the fish caught by them to market?*

NOVA SCOTIA.

R. J. Pollock	Forty open row-boats. Shipped in schooners from Maitland, Parrsboro' and Tatamagouche.
John D. McQueen	Small boats are generally used. The greater part are sent to market and sold fresh.
John McDonald	Small boats are built and used by those engaged in the fishery, numbering about 180, during the fishing season, of different shapes and sizes.
C. Robin, Collas & Co	Fishing boats average from 2 to 4 tons, and model improvement is very much needed. About 40 schooners fish from here. About a dozen schooners and square-rigged craft are engaged running the fish to markets in the West Indies and South American ports.
James Coady	The shore fishermen have only small boats (not registered), which are staunch and suitable for their work. There are only five vessels engaged in the fishery, having an aggregate tonnage of 252 tons. The fish caught by the above are transhipped by steamers to the States, and sailing vessels to Halifax, N.S.
David Ross	Barges and small schooners from 20 to 40 tons, 3 brigs and 2 schooners.
D. F. McLean	About 850 ordinary keel boats, 15 schooner-rigged vessels (700 tons), brigantines and schooners about 20 in number.
Lewis McKeen	About 800 keel boats, 16 schooners (tonnage about 700), also, 20 or 25 brigantines and schooners.

QUESTION No. 6—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
R. E. Burke	Boats are from 13 to 22 ft. keel. About 500 fishing boats are regularly used in this county, with an additional 100 during July. There are 3 regular coasting schooners, of about 50 tons each, which carry our catch to Halifax.
W. Bingham	Only one vessel clearing from this port engaged in the fisheries, the "Mary Moulton," 26 tons, and no vessel is engaged to carry the fish to market.
R. G. Zwicker	Two or three schooners, from 40 to 60 tons, engaged in the fisheries in this county. Inshore fishing is carried on by boats of small size. Seven or eight schooners, from 50 to 70 tons, are engaged in marketing the fish.
J. W. Burke & Sons	Boats are various sizes, from 14 to 24 ft. keel. Only one vessel of 14 tons engaged in the fishery; about 650 engaged in the whole county. About 10 schooners, from 50 to 70 tons measurement, are used carrying the fish to market.
Wm. Burke	Schooners from 40 to 50 tons, for carrying fish to Halifax, where they are disposed of.
F. W. Bissett	About 50 vessels and 500 boats engaged in the fishery. The fishing schooners carry their own fish to market, and about 20 others are engaged to carry the remainder of the catch.
D. Grucery & Son	The boats engaged are suitable for the fishery, numbering 30 to 40, and from 1 to 6 tons in size. Nineteen vessels clear for the deep-sea fishery, from 25 to 60 tons. The same vessels are engaged to carry the fish to market (Halifax), after being cured.
Alfred LeNoir	The only boats employed are the inshore boats, which do not clear, 53 vessels (2,049 tonnage, and crew of 502), 3 brigantines and 20 schooners carrying to market.
Allan McQuarrie	About 347 from 15 to 22 ft. keel; 6 schooners 10 to 40 tons, total tonnage 169. Fish taken to market by the general traders to Halifax and P.E.I.
William Cameron	Number of boats 1,215, vessels 16, tonnage of vessels 487. Where the fishermen have good harbours they use keel boats; other localities centre-board boats, as they can be hauled upon the shore without falling over.
G. Rowlings	Small boats are used; the largest would not measure more than 2 tons. About 34 vessels clear from ports between Halifax and Ecum Secum, tonnage about 1,140. The fishing schooners average from 15 to 60 tons; these vessels carry the fish to market.
W. M. Solomon	Schooners 180, tonnage 14,000; dories 900, tonnage 900; market steamers 2, tonnage 178; brigs for carrying, 9, tonnage 1,350; schooners for carrying, 12, tonnage 1,800; boats called whalers for shore fisheries about 1,500, tonnage 3,000.

QUESTION No. 6—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Thomas Day	Small open boats. Whaleboats and schooners are used for the fisheries; the latter vary from 10 to 100 tons. The export of fish is conveyed in schooners and square-rigged craft.
W. S. McGill	Schooners, centre-board boats and dories; 268 boats and dories; 31 schooners, tonnage 1,898. Twenty schooners and brigantines are employed in carrying fish to market.
S. O. Parker	Mackerel, herring, and lobster fishermen use open boats from 13 to 18 ft. keel; 8 sailing fishing vessels clear from this port with a tonnage of 566 tons. These vessels convey the fish to the home markets. Two brigantines are engaged in carrying to the West Indies.
J. A. Hatfield	There are 54 vessels, with a total tonnage of 2,210 tons, and 169 boats engaged in the fishery; the fish are carried to market by 3 steamers, 3 brigs and 4 schooners.
Parker, Eakins & Co.	Schooners from 30 to 100 tons catch the fish, and schooners and brigantines of from 90 to 150 tons carry them to the West Indies. They are shipped by steam to the United States.
J. R. Kinney	The fishing schooners vary from 65 to 110 tons; the fish is taken to the West Indies by brigantines and schooners.
J. W. Cossaboom	There are about 5 vessels in Digby county of 30 tons each that carry fish to market; large quantities are also shipped by steamer and railway.
W. M. Bailey	The size of the boats vary from 13 to 22 ft. keel upwards to 10 tons; about 223 are actually in use, but inferior in class. We have 15 fishing vessels with a tonnage of 502 tons; steamers run to the United States, while brigantines and schooners are used for West Indies and South America.
James S. Miller	About 75 boats and 7 vessels engaged in fishing, varying from 15 to 20 tons each; they take their own catch to market. There are also steamboats and railways by which the fish are sent to market.
S. P. Burnham	Small open boats from 5 to 7 tons. No vessels employed.

NEW BRUNSWICK.

B. Brown	Vessels from 10 to 40 tons engaged in fishing; 20 cleared from this port; total tonnage, 339; 140 boats, 15 to 20 ft. keel; half are centre-keel and sloop-rigged; market their own fish.
C. Cormier	Only small boats are used here, which put to sea in the morning and return at night.
Henry O'Leary	Small boats from 18 to 20 ft. keel and small schooners from 10 to 15 tons, numbering 400; all fish sent to market by rail.
Robert Goodwin	Sail boats from 18 to 25 ft. keel, good models; about 660, mostly engaged in the lobster fishing.

QUESTION No. 6—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Henry Murry	Small schooners, about 14 in all; also several boats from 14 to 16 ft. keel used at home.
Thomas Barry	Some small schooners, sloops and net boats; no large ones used.
D. F. Campbell	Fish in my district are taken to the canneries by small steam and sailing vessels owned in United States.
Joseph O'Brien	Excellent boats are engaged in fishing; numbers have fallen off in consequence of the herring failure.
E. V. Rourke	Open boats are used for inshore fishing; no large ones engaged here.
S. Stewart	Three small boats; fish consumed at home.
Jas. Hickson	Only small boats used here; fish sent to market by rail.
J. G. Williston	Eight schooners, total tonnage, 300 tons; also a number of boats about 20 to 25 ft. keel for lobster, mackerel, &c.; log canoes are also used; two or three small schooners and ss. "Miramichi," 30 tons, for the fishery.

PRINCE EDWARD ISLAND.

A. F. Larkin	Twenty-five schooners from 15 to 70 tons each, and about 2,000 boats. We have a good transportation service for summer. As to winter fishing trade the tunnel alone will fully develop the business.
J. H. Myrick	Sixteen to 32 ft. keel, chiefly clinker-built, and about 20 vessels from 20 to 65 tons each. The catch is carried to market chiefly by rail.
R. Robbler	About 600 vessels from 15 to 30 ft. keel. All kinds of fish are exported either by schooners or steamers. Freight very cheap, about 55c. per barrel to Boston.
Daniel Davies	Open and decked boats are used from 20 to 30 ft. keel; a few schooners of larger size are also used.

QUEBEC.

J. A. Verge	No vessels or boats from this district are engaged in sea fishing.
J. L. Smith	The fishing boats of this district are small going out in the morning and returning in the evening. Vessels used to carry this fish to markets are from 100 to 180 tons each.
Geo. Romeril	Vessels not employed fishing, but only to convey the fish to market. Open or decked boats from 5 to 10 tons are used in fishing.
G. F. Annett	The boats used on this coast are the common fishing boat, the flat-bottom boat and the fore-and-aft schooners. There are about 3,000 of these, and about 20 vessels.
A. E. Collas	Only boats, open or decked, from 5 to 10 tons are used for fishing. Vessels from 100 to 180 tons are used to carry the fish to the markets.

QUESTION No. 6—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Alexander & Co	Vessels are not engaged in the fishing operations, merely in the export trade. From 100 to 170 tons are the best suited for this carrying of fish. About 100 open boats are used in the cove and vicinity.
Jos. Lemieux	The boats used are either flats of 12 or 15 feet long, or the regular fishing boats of from 16 to 23 feet long. Six or seven schooners are engaged in the shipping of cod to foreign markets.
Jos. I. Letourneau	No schooners used, but cod fishing carried on with 133 regular fishing boats.
Johnny Joncas	None.
Nap. Levesque	Three schooners are used to bring fish to markets, and four are fitted out for cod fishing in other districts.
U. Bhereur	None.
N. A. Comeau	Seven schooners of an average tonnage of 15 tons are engaged in the cod and herring fisheries of this division, besides 75 open fishing boats used by the residents.
T. Mignault	Four schooners and 61 boats were engaged in the fishing industry of this district, besides four other vessels and one steamer which were carrying the fish to market.
G. Mathurin	Only two boats were cod fishing in his district last summer, and two schooners trading with Indians carried the fish to market.
John Legouvie	The boats and vessels are in as good order as required.
	Gulf Division :
Wm. Wakeham	Over 5,000 boats and 50 schooners (30 tons each). Fish goes to market in vessels from 100 to 250 tons. About 30 of them are thus engaged.

QUESTION No. 7.—*How many men belonging to your county are engaged in the fisheries, and are they expert, industrious and handy ?—State also, what branches of the fisheries they are engaged in, and what kind of fishing they understand best ?*

NOVA SCOTIA.

R. J. Pollock	About 100 men master of their profession, as all Nova Scotians are. Principally bay fishing ; drift nets and weirs.
J. D. McQueen	They understand salmon and lobster fishing best.
John McDonald	Upwards of 250 men engaged in the fishery. They are handy, expert and industrious, but do not wholly depend on fishing for a livelihood, being sons of farmers.
C. Robin, Collas & Co	About 938 men in this locality who are expert, handy and generally industrious. They are mostly engaged in the salmon and cod fishing, which they understand the best, although they are engaged also in the mackerel and herring fishery.

QUESTION No. 7—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
James Coady	About 200 men and boys engaged in the fisheries; they are expert, industrious and handy; they are principally engaged in codfishing, hand lining, net fishing and some seining; they understand net fishing and hand lining best.
David Ross	About 1,000 men. Yes Codfish, mackerel, herring, salmon and lobster fishing.
D. F. McLean	About 2,500 men; they are expert, industrious and handy, and are engaged in nearly all kinds of fishing; they understand mackerel, herring, cod, haddock and lobster fishing best.
Lewis McKeen	Over 2,000 men. Yes. Mackerel, herring, cod and lobster fishing.
R. E. Burke	1,034 actual fishermen; 200 more men are employed during July fishing for herring and squid; they are handy, expert and industrious; understand cod and mackerel fishing best.
W. Bingham	About 1,186; all are expert, handy and industrious; are principally engaged in the herring, cod and mackerel fishery and understand these branches well. Salmon and lobsters are also caught very successfully during the season.
R. G. Zwicker	Between 600 and 700 men; they understand the cod, mackerel and herring fishery best.
J. W. Burke & Co	About 1,300 men; they are handy and industrious as a rule; the cod fishing in all its branches.
William Burke	About 300 men who are industrious and expert fishermen; they understand line and net fishing best.
F. W. Bissett	About 1,500 to 2,000 men; they are expert and industrious, and understand all branches of the business well.
D. Grucery & Son	About 300 men; they are industrious and handy and understand the codfishing best.
Alfred LeNoir	1,175 men engaged in the fisheries; they are industrious and handy and understand line and net fishing perfectly.
A. McQuarrie	About 430 men; they are expert and handy, but many of them lacking in industry; engaged in herring, mackerel, cod and lobsters; net and lobster fishing are well understood but not vigorously pursued.
William Cameron	1,787 men. Yes. Line, gill-net, trap-net, bag-net and lobster fishing; they understand all these branches very well.
G. Rowlings	The fishermen are expert and industrious; number of men not known; engaged in cod, lobster, herring and mackerel fishing, which they well understand.
W. M. Solomon	About 4,000 men are engaged; a class of fishermen unrivalled, possessing a knowledge of all sea fishing.
D. Evans	do do do
Thomas Day	The fishermen in our county are handy and industrious, and have a general knowledge of fishing in all its branches.

QUESTION No. 7—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Wm. J. McGill	868 men. Yes. Deep-sea and inshore fisheries, they understand fishing in all its branches, except the curing of herring.
S. O. Parker	About 250 men; they are expert and industrious; engaged in lobster, cod, mackerel and herring fishing and understand all branches well.
J. A. Hatfield	1,500 men; they are industrious and expert; they are engaged in bank and coast fisheries, and understand both thoroughly.
Parker, Eakins & Co	We estimate that 2,000 men belonging to this county are engaged in the fisheries a part or the whole of the working season. About 500 men go to the States and ship in American vessels. All branches of the fisheries are engaged in, the men are industrious but not as particular in their methods of curing and packing as they might be.
J. R. Kinney	About 1,532 men are engaged in the deep-sea and inshore fisheries, and they understand their business well.
J. W. Cossaboom	About 1,000 men engaged in the different branches of fishing, they are industrious, handy, &c.; engaged in line, lobster, net, trap-net and weir-net fishing, all branches of which they thoroughly understand.
W. M. Bailey	About 600 men; they are generally handy and industrious; line and trawl fishing is understood best among these fishermen.
J. S. Miller	About 200 men are mostly engaged in fishing, the other fishermen are employed at farms part of the year. They understand cod, herring, shad and salmon fishing best.
S. P. Burnham	Only about 50 men are engaged in fishing from June till August.
	NEW BRUNSWICK.
Henry Murry	About 500 men; not constantly engaged in fishing, only at fishing season, otherwise they are farming, but understand all kinds of fishing fairly well.
C. Cormier	About 400 men; they are expert, industrious, and understand all branches of the fishery.
Henry O'Leary	1,000 men, at least; they are industrious in catching herring, lobster, mackerel and smelts.
R. Goodwin	750 men; engaged principally in the herring, mackerel and lobster fishery.
Thomas Barry	About 1,200 men; handy and industrious, and thoroughly understand the work they are engaged in.
B. Brown	222 men; engaged in all branches of fishing, and are expert and handy.
D. F. Campbell	The men are expert and handy in all branches of fishing.
Frank Todd	About 2,300 men and boys engaged; are expert, handy and industrious; largely engaged in line fishing; herring, mackerel and lobster fishing are the chief fisheries, and all are generally understood.

QUESTION No. 7—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Joseph O'Brien	About 528 men; are expert and handy, and chiefly engaged in fishing for salmon, shad, gaspereaux, codfish, hake, haddock, pollock and lobsters.
S. Stewart	Only 5 men engaged in the shad fishery, and are expert in their work.
J. Hickson	The fishermen are expert, and understand the fishing of salmon, mackerel, herring, cod, lobster and smelts.
J. G. Williston	Nearly 3,000 men; are expert and handy in fishing for salmon, alewives, mackerel, herring, cod, hake, frost fish, smelts and lobsters; understand all kinds of fishing very well.

PRINCE EDWARD ISLAND.

Daniel Davies	Around Murray Harbour and adjacent shores there are about 1,000 men off and on; they are mostly expert and industrious.
R. Robbler	In Prince county about 10,000 persons, including lobster-factory hands, and are capable of doing all kinds of fishing.
J. H. Myrick	About 1,500 men, part of whom give a divided attention to this industry; they are handy and expert mackerel fishermen and understand their work.
A. F. Larkin	About 2,000 men and upwards; they are, as a rule, expert, handy and industrious. They understand the herring, mackerel, lobster, cod, hake, smelt, eel and oyster fishery best.

QUEBEC.

J. A. Verge	Nil.
J. L. Smith	About 3,000 men and boys; they understand cod and herring fishing best.
Geo. Romeril	About 2,000 men and boys are employed in the fishing industry. The majority of them are expert and handy, but not over industrious. Cod fishing is the staple fish and best understood. Lobster canning is also carried on early in the season.
G. T. Annett	Nearly 5,000 fishermen are engaged in the business in this county. The majority are expert and handy, and they understand the cod fishery the best, although taking part in herring, mackerel, halibut, haddock and other fisheries as well.
A. E. Collas	Over 4,000 men and boys are engaged in this business; they are expert and handy. Cod fishing is the staple industry and most paying, consequently the best understood by them.
Alexander & Co	Most of the men here are engaged in the fishing industry. They are experts, but not very industrious; they understand boat fishing best.

QUESTION No. 7—QUEBEC—*Continued*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Jos. Lemieux	About 1,000 men are engaged in the cod industry, about 200 hands curing and preparing it for exportation. There are ten salmon fishermen.
Jos. I. Letourneau	250 men engaged in the cod and herring industry in his district.
Johnny Joncas	About 200 of the inhabitants fish at certain periods of the year.
Nap. Levesque	About 130 men from this county are occasionally engaged in the fishing industry. They are experts and industrious in prosecuting the kinds of fish already mentioned.
U. Bhereur	About 100 inhabitants are occasionally engaged fishing.
N. A. Comeau	Aout 150 men are employed fishing in this division. They are very industrious and handy; they understand cod and salmon fishing the best.
T. Mignault	134 men fished the waters of his division last year. They were mostly engaged in the cod fishery, which they understand best. They are industrious and handy, building all their boats and schooners themselves.
G. Mathurin	Only 14 fishermen were engaged, mostly in the salmon fisheries, which they understand the best. They are neither expert nor industrious.
John Legouvie	Nil.
Wm. Wakeham	In Saguenay: Sailors 225, Fishermen 1,500 In Gaspé: Sailors 110, Fishermen 3,000 In Bonaventure: Sailors 28, Fishermen 1,000 Total: Sailors 363, Fishermen 5,500 They are expert and handy, but the majority are not industrious, and they are all improvident. They understand cod fishery best.

QUESTION No. 8.—*Are the seines, nets and fishing gear in use of the best description, and are the boats and fishing schooners employed built upon good models? Would not the circulation of models of superior boats and vessels from port to port be a proper means to improve them?*

NOVA SCOTIA.

R. J. Pollock	In most respects good; probably the circulation of models would be an advantage.
J. D. McQueen	The nets, traps and moorings are good, but the boats need improvement; yes.
John Macdonald	Their nets and gear are of the best description; their boats are not the best of models, as the fishermen build them themselves, and are satisfied with them, as they do not depend entirely on fishing for a living.
C. Robin, Collas & Co	Nets are of good quality; boats and schooners need much improvement; should think a circulation of models would be a great advantage.
James Coady	do do

QUESTION No. 8—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
David Ross	Seines and gear are of good description; the models of boats and schooners are fair; yes.
D. F. McLean	Yes; fair; the circulation of models would be a proper means for improvement.
Lewis McKeen	Some fair, others indifferent; yes.
R. E. Burke	Nets and seines are of best quality; boats are well built, to suit the different localities; a circulation of models would be unnecessary here.
W. Bingham	Nets and boats are of the best description, well suited for the N. E. shore, being built strong; if superior models were circulated an improvement might be made.
R. G. Zwicker	In some localities they are good, in others they are not; most of the boats in use are the best for this coast. The want of a good harbour north of Ingonish is the greatest drawback to our fisheries, being the best part of the coast, and no harbour even for large boats for over 60 miles of coast.
J. W. Burke & Sons	All the fishing gear is of the latest design and good quality; fishing schooners of the latest build are good models; a circulation of superior models would no doubt be of great improvement, especially in the northern part of the county.
William Burke	Nets and fishing gear are of the best description; schooners and boats are modelled to suit this coast, and cannot suggest any improvement.
F. W. Bissett	The boats and gear in use are all suitable and of the best description; some of the fishermen are poor and cannot afford to buy the best models, but they go as far as their means will allow them.
D. Grucery & Son	Nets and gear in use are of the best quality; vessels and boats employed suit very well and are always improving.
Alfred LeNoir	The nets and gear are made of the best material and style obtainable; models of vessels and boats are of the latest improvements and are well suited for our fisheries.
A. McQuarrie	Boats and gear are of the best description; but models circulated would improve the class of boats.
William Cameron	The boats and models are of the best description, and are very suitable for the fishermen.
G. Rowlings	The boats and schooners built are from good models; an improvement might be made if superior models were circulated.
W. M. Solomon	The nets and gear are of the very best description; our boats and vessels are unsurpassed; we feel we possess the very best models that can be found.
D. Evans	The seines, nets and gear are equal to anything used in the continent; our fishing schooners and boats would do for models for the world to build from.
Thomas Day	Yes; yes; no.
Wm. J. McGill	They are of the best description; our boats and schooners are built from first-class models; no need for improvement here.

QUESTION No. 8—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
S. O. Parker	All new boats are made from the latest models; nets also are of the best description.
J. A. Hatfield	The fishing materials, boats and schooners are very good, but still there might be an improvement made by the way you suggest.
Parker, Eakins & Co.	The seines, nets, fishing gear, boats and vessels are the best that are known and need no improvement.
J. R. Kinney	Yes; no.
J. W. Cossaboom	They are of the best description, and built from the best models in the Dominion and need no improvement.
W. M. Bailey	Not of the best; the boats are not so good as should be used; the schooners have improved this last few years; models might assist to improve the boats, which is very much needed.
J. S. Miller	The fishermen are satisfied with their gear, nets and boats.
S. P. Burnham	Fair; do not think models circulated would be an advantage.
NEW BRUNSWICK.	
Henry Murry	No seines used. They are built on fairly good models. Yes; if fishermen had means to build.
C. Cormier	The smelt bag-nets used are of the best description. The boats are built upon good models.
Henry O'Leary	The nets are of the best description. The boats are good models for shore fishing, but too small.
R. Goodwin	No seines used. Our nets are good. The boats are good models and very fast, also safe.
Thomas Barry	Yes. The fishermen pride themselves on having good vessels and boats.
B. Brown	Seine-nets and fishing gear are of the very best. Boats are good models, fast and safe.
D. F. Campbell	Seines and nets of all kinds are of the best. Boats are good models, safe and seaworthy, fast, handy and good carrying capacity.
F. Todd	Nets and gear used on most improved style. The boats and vessels cannot be improved.
Joseph O'Brien	No seine-nets used, but fishing gear is of best quality. The boats and vessels are most suitably adapted for the district.
E. V. Rourke	Our class of boats are very good.
S. Stewart	The fishing gear is good, and boats well built.
James Hickson	Nets used are the best produced, and boats are built to suit the locality.
J. G. Williston	Yes. Boats and schooners are fairly built. I believe models circulated would improve them.
PRINCE EDWARD ISLAND.	
Daniel Davies	Boats and gear are in good order, and could not suggest any improvement.
R. Robbler	The seine nets are of the latest design. Boats used are of the ordinary character. Should advise better models for 15 and 30 ft. boats, which would be of great advantage.

QUESTION No. 8—PRINCE EDWARD ISLAND—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. H. Myrick	Yes; the very best. Boats and schooners are of good models. The circulation of models would be a needless expense to the department.
A. F. Larkin	The seines and nets are of the best description. Boats and schooners only fair. The circulation of good models, especially for boats, would be of great advantage.

QUEBEC.

J. A. Verge	Nil.
J. L. Smith	Fishermen are satisfied with such gear as they now use; their boats rightly worked will stand the roughest sea in the bay.
Geo. Romeril	Consider their fishing gear as good as can be procured, and their boats equal to any fishing boats afloat.
G. T. Annett	Nets and seines, though not of the best description, are generally good. The models of boats and vessels suit the business fairly well. Some of the vessels might need improvements.
A. E. Collas	Fishing gear and boats used in the fishing industry are considered as good as can be procured.
Alexander & Co	The nets, seines and other gear used are considered the best; the boats, for their size, could not be improved.
Jos. Lemieux	No trap-nets in his division; cod is captured with hooks and lines, and herring with nets.
J. I. Letourneau	Fishing gear and boats are of good quality.
Johnny Joncas	The nets used are of good quality, and according to law. The small boats used are good enough for such fishing carried on with them. They must be light, so that a couple of men can handle them on the beach.
Nap. Levesque	Seines and nets in use are of good description, but it would be advantageous to show our men good models for their boats and schooners, as those now in use are of inferior quality.
U. Bhereur	Yes.
N. A. Comeau	The fishing boats and gear are of the best description. The boats are from 20 to 25 feet long, sharp at both ends; clinker-built of cedar wood; very light and buoyant, and splendid sea boats. The schooners are from poor models, built and rigged by guess-work.
T. Mignault	Nets and other fishing gear are of good quality, so are the fishing boats used; but the schooners are not as rapid as the American boats, although they stand rough weather as well.
G. Mathurin	The nets, fishing gear and boats are of good quality, and good models to stand the storms.
John Legouvie	Nil.

QUESTION No. 8—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Wm. Wakeham	The seines, nets and other gear are of the best description. The boats are the best that can be used for the purpose; their size varies according to the locality of shelter. The schooners are poor and small. It would be advisable to circulate improved models and plans. The bulk of these fisheries being purely inshore, large boats can advantageously replace vessels even on the banks.

QUESTION No. 9.—*Are there any oyster fisheries adjoining your county? What is their extent and productiveness?*

NOVA SCOTIA.

R. J. Pollock	Very little; possibly 25 brls.
J. D. McQueen	Nothing of any consequence.
John McDonald	There is an oyster fishery in an arm of the sea within the county, producing about 200 brls. a year.
C. Robin, Collas & Co.	Oysters are few, but we have a splendid harbour to build oyster beds, well sheltered and inland, and would yield a large revenue if once started, and would cost but little.
James Coady	Last year about 1,000 brls. were exported from my district.
D. F. McLean	About 1,600 brls. are taken annually, valued at $3,200.
Lewis McKeen	About 1,500 brls. yearly, valued at 3,000.
W. Bingham	Yes; there are oyster beds, but they are not fished much, as there are no means of transit, either steam or rail.
R. G. Zwicker	Not to any extent.
J. W. Burke & Co.	None of any account.
G. Rowlings	Only a small one at Musquodoboit Harbour; originally it was a good place, but it has been fished out.
Thomas Day	No; there are places where oysters could be planted, and heaps of shells have been laid up at places by Indians and early settlers.

NEW BRUNSWICK.

Henry Murry	The oyster beds extend about 12 miles; quality is good; the beds are impaired by winter fishing.
C. Cormier	About three square miles, and produce about 1,000 to 1,500 barrels a year.
Henry O'Leary	The large and extensive beds in this county are entirely neglected and not protected in the northern part of the county.
R. Goodwin	There are many beds in this county, but not so productive as formerly. The present yield is about 100 barrels annually; they are the very best quality.
Thomas Barry	No.
B. Brown	No.
D. F. Campbell	No.
F. Todd	No.
Joseph O'Brien	No.

QUESTION No. 9—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
E. V. Rourke	No, but think oysters might be cultivated here.
S. Stewart	No.
James Hickson	There are oyster beds in Caraquet, scattered over the upper part of harbour.
J. G. Williston	Yes.

PRINCE EDWARD ISLAND.

Daniel Davies	A few small extinct beds are used by raising the shells for farming purposes.
R. Robbler	None, except west of Port Hill.
J. H. Myrick	Yes, the oyster fisheries of Cascumpec Bay and adjoining rivers; the Narrows, Malpeque Bay and Bedeque Bay are large in extent and very productive.
A. F. Larkin	Yes, but not of very great extent.

QUEBEC.

J. A. Verge	None.
J. L. Smith	None.
Geo. Romeril	No oysters in this county; experiments were tried in the Barachois here by the late Dr. Fortin, but were not successful.
G. T. Annett	No oysters in this county.
A. E. Collas	No oyster beds in the county of Gaspé. The late Dr. Fortin had deposited some oysters in Gaspé Basin; and although this first experiment did not prove successful, he would like to see a second attempt.
Alexander & Co.	No oyster fishing.
Jos. Lemieux	No oysters here.
J. I. Letourneau	None.
Johnny Joncas	None.
Nap. Levesque	None.
U. Bhereur	No.
N. A. Comeau	None.
T. Mignault	There are no oysters here, but clams are often taken, especially for bait.
Gaspard Mathurin	No oysters, but some clams are taken for bait when other fish fail.
John Legouvie	Nil.

Gulf Division:

Wm. Wakeham	No oyster fisheries in the Gulf division. The necessary conditions would seem to exist at certain places, but although oysters were planted by the late Commander Fortin, without results.

QUESTION No. 10.—*State as near as you can the quantities of oysters exported from your county, the markets to which they are sent, and the prices at the grounds and on the markets respectively.*

NOVA SCOTIA.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
R. J. Pollock	Price at the grounds, $3 per barrel. None exported.
John McDonald	About 2,000 barrels are taken annually and consumed in the locality. Price at the grounds, $3 per barrel.
James Coady	About 1,000 barrels are exported to Pictou, New Glasgow, Halifax, St. John and Moncton. About $1 per barrel paid on the grounds and $1.75 to the above buyers.
D. F. McLean	About 1,500 barrels are sent to St. Pierre Miquelon, Halifax and Sydney. Price at the grounds, $2; markets, $3 per barrel.
Lewis McKeen	About 1,400 barrels to Sydney, Halifax and St. Pierre. $2 and $3 per barrel.
W. Bingham	About 500 barrels to Halifax. $1 per barrel at the grounds and $1.50 to $2 on the markets.
Wm. Burke	Only about 10 barrels per year; used by persons in the locality. Price $2 per barrel.

NEW BRUNSWICK.

Henry Murry	About 2,500 barrels. Canadian markets. About $2 on the spot, but prices vary.
C. Cormier	About 1,000 barrels. Canadian markets. About $2 on the ground; at markets from $3 to $4.
Henry O'Leary	About 1,000 barrels. Canadian markets. About $2 on the ground; markets about $3.
R. Goodwin	About 100 barrels taken annually, realizing about $4 per barrel from Shemogue.
Thomas Barry	None.
B. Brown	None.
D. F. Campbell	None.
F. Todd	None.
Joseph O'Brien	None.
E. V. Rourke	None.
S. Stewart	None.
Jas. Hickson	Unable to say.
J. G. Williston	Between 10,000 and 12,000 barrels. Canadian markets. Prices vary from $1 to $4, according to quality.

PRINCE EDWARD ISLAND.

Daniel Davies	None.
J. H. Myrick	Would estimate the annual shipment at 4,000 to 5,000 barrels, chiefly to Canadian markets.
A. F. Larkin	About 30,000 barrels, chiefly consumed in Canada. A few are sent to Newfoundland and United States.

QUESTION No. 10—*Continued.*

QUEBEC.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. A. Verge	Nil.
J. L. Smith	None.
Geo. Romeril	None.
G. T. Annett	None.
A. E. Collas	None.
Alexander & Co	None.
Joseph Lemieux	None.
J. I. Letourneau	None.
Johnny Joncas	Nil.
Napoleon Levesque	Nil.
U. Bhereur	Nil.
N. A. Comeau	None.
T. Mignault	Nil.
G. Matheurin	Nil.
John Legouvie	Nil.
Wm. Wakeham	Nil.

QUESTION No. 11.—*Do you consider the use of trap-nets injurious, and if so, please state in what particular?*

NOVA SCOTIA.

John McDonald	The fishermen in this county are opposed to any trap-nets being used. They maintain that they are very injurious to other fisheries, taking the parent fish as well as the young fish, and in the end destroy all kinds of fisheries.
C. Robin, Collas & Co	We do not find trap-nets injurious, they do not interfere with other fisheries; they give bait when other nets do not fish.
James Coady	The shore fishermen are unanimous in condemning their use in this locality.
D. F. McLean	Trap-nets, in my opinion, are not injurious, unless small fish caught therein are thrown away, in which event the fishing grounds would be polluted.
R. E. Burke	Our fishermen will not allow trap-nets to be used, and consider them injurious.
W. Bingham	No trap-nets used, but two are applied for, which the fishermen think will assist them in procuring bait for this port.
R. G. Zwicker	There are very few trap-nets used in this county; they are considered injurious as they are said to frighten the fish off shore; another objection is that some trap owners throw away on their fishing grounds quantities of small fish that are not fit for market.
J. W. Burke & Co	Trap nets are injurious. As a rule the fishermen will not allow them to be set in either bay or near the fishing grounds of this place.
William Burke	Do not consider them injurious.
F. W. Bissett	No.
D. Grucery & Son	I consider they are very injurious to our fisheries.
Alfred Le Noir	There is no trap-net fishing in this division.

QUESTION No. 11—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
A. McQuarrie	Yes, most injurious, breaking up the schools of fish, and inclosing about 50 or 60 per cent of fish not wanted, and left on the beach to rot, or thrown back into the waters to pollute them, and drive all fish away from the grounds.
Wm. Cameron	Yes, to some extent; the meshes of the trap-nets being small, they take smaller fish than the gill-nets, and salmon being an inshore fish is liable to be caught in trap-nets, if these are allowed to be set in May or June, and although it is illegal to do so, yet the great value of this fish will induce the trap-net fishermen to dispose of them in a clandestine manner.
G. Rowlings	Some of the fishermen object strongly to them, but along this coast of Halifax county so few are used and so little caught by them that there can be no objection here.
W. M. Solomon	If properly set they are not injurious.
D. Evans	No.
Thomas Day	Yes, the mesh of the arms of trap are too small, killing large quantities of fish too small for sale. I would recommend a mesh large enough to allow unmerchantable fish to escape. Also the owners of the traps to be under a paid license.
W. J. McGill	Yes, in my district I do. They are very destructive to young fish.
J. A. Hatfield	I do; placing these traps near the entrance of rivers has operated against the increase of salmon in those rivers and destroying the young salmon on their way from the river. They are also claimed to be a benefit in supplying the cod fishermen with bait.
Parker, Eakins & Co.	Trap-nets enable a large number of people to get a living by catching fish that would not otherwise be caught. Their use injures nobody.
J. R. Kinney	I do not.
J. W. Cossaboom	I consider they are injurious to the killing of spawn mackerel.
W. M. Bailey	Yes; most decidedly, as they kill so many young and small fish.
J. S. Miller	No; with proper restrictions.
S. P. Burnham	Consider them injurious, but have none here.

NEW BRUNSWICK.

Henry Murry	Do consider them injurious, but do not use them here.
C. Cormier	They are injurious, as they catch all kinds of fish, and those that are not wanted are wasted.
Henry O'Leary	They are very injurious, as they catch all the small fish, which keeps the supply short.
R. Goodwin	Yes. The fishermen are too greedy and extend the leaders too far out from the shore, not allowing the parent fish to pass up stream. Fish naturally hug the shore in our waters and should be allowed to pass.

QUESTION No. 11—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Thomas Barry	It is most injurious to the herring fishery, catching all the small ones.
B. Brown	Not used here.
D. F. Campbell	Not used here.
F. Todd	They are very injurious to the herring fishery.
Joseph O'Brien	They are very injurious, having destroyed the herring fishery and will eventually destroy the line fishery. It has proved most disastrous to our fishermen.
E. V. Rourke	Unable to say.
S. Stewart	They are very injurious, killing every fish that comes to the net.
Jas. Hickson	No; the trap-nets we use are not injurious.
J. G. Williston	Do not consider smelt trap-nets injurious. A trap-net set for alewives is most injurious and destructive to young salmon and bass.

PRINCE EDWARD ISLAND.

Daniel Davies	No trap-nets used except for lobsters.
R. Robbler	Do not approve of them.
J. H. Myrick	Consider trap-nets harmless when set in the sea; if placed in rivers, consider them injurious in preventing the fish from reaching their natural spawning grounds.
A. F. Larkin	Yes; they destroy the bait.

QUEBEC.

J. A. Verge	The trap-nets seen by him to capture salmon are injurious, catching a greater number than the plain wing-net. The granting of such license is unjust to those who fish the ordinary way.
J. L. Smith	No trap-nets used here.
George Romeril	Trap-nets are not injurious, but the size of the mesh should be regulated to allow small fish to escape.
G. T. Annett	Yes; trap-nets are injurious, destroying other fish besides those intended to be caught.
A. E. Collas	Trap-nets are not injurious. They enable the fisherman to capture fish that he could not take with hook and line. The size of mesh should, however, be regulated to allow the young fish to escape.
Alexander & Co.	No trap-nets are used in this locality, but they are not considered injurious to fish, as the mesh should allow all small fish to go through.
Jos. Lemieux	No trap-nets in this division.
Jos. I. Letourneau	No trap-nets used in his division.
Johnny Joncas	None in this district.
Nap. Levesque	No trap-nets in use here. He thinks that while they might do for large fish, they would be injurious to small ones, because they would be lost before the traps could be raised.
N. Bhereur	None used in these waters.
N. A. Comeau	Yes; trap-nets are injurious, destroying young fish too small for market, consequently thrown away.

QUESTION No. 11—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
T. Mignault	Trap-nets are not so destructive as seines. He states an instance where 1,000 barrels of mackerel were caught with haul of a seine at Seven Islands, while a trap-net set in the vicinity only captured half a barrel in three weeks.
G. Mathurin	None in his division.
John Legouvie	Trap-nets do not injure the fisheries, but cod seines should be stopped.
	The whole Gulf Division :
Wm. Wakeham	Trap-nets are only used on the north shore for cod and under restriction as to the size of mesh in the bar-net. They are the least injurious of all methods of fishing. Labrador coast being the only place where cod school on the surface, traps can be used there to the best advantage.

QUESTION 12,—*Do you consider that trap-net fishing should be entirely prohibited, or whether it should be allowed under certain restrictions, and, if so, what restrictions ?*

NOVA SCOTIA.

John McDonald	In my opinion, and that of all the inhabitants and fishermen, they should be entirely prohibited.
C. Robin, Collas & Co	Consider they should be allowed under certain restrictions, and only for certain localities where fishermen are in favour of them.
James Coady	I consider that trap-net fishing should be entirely prohibited.
David Ross	Fishermen do not consider they should be used at all.
D. F. McLean	I consider that trap-net fishing should be allowed under certain restrictions, as they are necessary for supplying bait to boat fishermen. The restrictions necessary, in my opinion are, that all fish caught not fit to cure should be liberated alive.
R. E. Burke	Entirely prohibited.
R. G. Zwicker	Not entirely prohibited, but should be under restrictions.
J. W. Burke & Sons	To restrict trap-nets to suit both owner and fishermen, which would be very difficult, as the fishermen of this county are entirely opposed to trap-net fishing.
Wm. Burke	No trap-net fishing in this district, and cannot express an opinion.
F. W. Bissett	No ; if all fish caught in the traps are taken on shore and dressed, cleaned, or otherwise disposed of, the main object being to prevent offal from being thrown overboard on the fishing grounds.
D. Grucery & Son	Cannot say, but it may be beneficial for bait.
A. McQuarrie	Entirely prohibited within the three-mile limit, the same with trawl and set-net fishing which must ultimately destroy the fishery.
William Cameron	Should be restricted as much as possible for the taking of squid, and limited to three months, viz., July, August and September.

QUESTION No. 12—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
G. Rowlings	No.
W. M. Solomon	Not by any means, as it enables the fishermen to secure bait for the deep-sea fishing. The restrictions in the Fisheries Act are favourably recognized.
D. Evans	It should be carefully regulated and controlled; to prohibit them would lessen the catch of bait-fish and mackerel materially.
Thomas Day	No. Restriction of limit with regard to distance, meshes of twine. Traps are a great benefit to fishing vessels for the supply of bait.
M. J. McGill	No; I do not. There are places where a trap-net might be set which would not be injurious to young fish.
J. A. Hatfield	Not entirely prohibited, but only in places where they destroy the young salmon in descending the rivers.
Parker, Eakins & Co.	The only restrictions should be as to the length of leader allowed each trap-net and the distance between them. We think the present regulations as administered by fishery officers are all right.
J. R. Kinney	No; the present regulations are sufficient.
J. W. Cossaboom	Should not be entirely prohibited. Trap-nets should not be set before July, as that would protect the spawn fish. If allowed to be set early in the spring they will soon kill off the mackerel.
W. M. Bailey	Entirely prohibited.
J. S. Miller	No; only restricted. Sunday close time thoroughly carried out, and the meshes of sufficient size to allow all young and immature fish to pass through.
S. P. Burnham	I do.

NEW BRUNSWICK.

Henry Murry	Trap-net fishing should be prohibited.
C. Cormier	Should be entirely prohibited.
Henry O'Leary	Should be prohibited, or in a short time the fishing will become extinct.
R. Goodwin	No; allowed under certain restrictions:—1st. That all traps should be one uniform distance from the shore. 2nd. That each leader should not have more than two traps. 3rd. There should be a weekly close time from 6 o'clock Friday evening until 6 o'clock Monday morning, and that both leaders and traps be taken up during weekly close time.
Thomas Barry	Not entirely prohibited, but greatly restricted; only one-half the present number of weirs should be allowed.
B. Brown	Unable to reply.
D. F. Campbell	Unable to say.
F. Todd	Very difficult to say.
Joseph O'Brien	Trap-nets should be entirely prohibited in rivers, as they destroy all kinds of fish that come to spawn.

QUESTION No. 12—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
E. V. Rourke	Cannot say.
S. Stewart	Should be prohibited.
Jas. Hickson	The same as now exist.
J. G. Williston	Trap-nets for salmon or alewives should be entirely prohibited.

PRINCE EDWARD ISLAND.

Daniel Davies	Purse-seines for the capture of mackerel are considered injurious since they have been used.
J. H. Myrick	The present restrictions are ample. It is valuable to the fishing business by placing an abundant supply of bait to the fishermen at a nominal cost.
A. F. Larkin	Should only be allowed under very careful supervision, and with such regulation as would prevent the trapping and destruction of bait.

QUEBEC.

J. A. Verge	It would undoubtedly become satisfactory that all fishermen should fish the same manner, pay the same rate of fees, either on the bar-net alone, or on all nets used, or so much per 100 lbs. on their catch.
J. L. Smith	No trap-nets in use here.
Geo. Romeril	Could be used provided the size of mesh is regulated.
G. T. Annett	Yes ; trap-nets should be entirely prohibited.
A. E. Collas	Nil.
Alexander & Co	Trap-nets should not be prohibited. The price of such net, license fee, expenses of attending will be more than sufficient to prevent their becoming too numerous.
Jos. Lemieux	Nil.
Jos. I. Letourneau	No trap-nets here.
Johnny Joncas	None.
Nap. Levesque	Answered by No. 11.
U. Bhereur	No trap-nets used here.
N. A. Comeau	Trap-nets would not be injurious if limited to certain localities for the taking of cod only, and the mesh should not be less than 4 inches, to allow smelts and trout to escape. They should not be set before 10th July.
T. Mignault	Trap-nets could be allowed on certain conditions. When the owners have not sufficient hands to cure all the fish inclosed in the traps, the fishery officer should have authority to open such traps.
G. Mathurin	No remarks on trap-nets, but seining for cod is injurious as it destroys the young of that species.
J. Legouvie	Nil.
	The whole Gulf Division :
Wm. Wakeham	Trap-nets should be regulated by licenses, as to the size of mesh (not to be less than 4½ inches in leader), distance stated between each, as well as distance they should be allowed from the mouths of salmon rivers. The fee for cod traps is too high. The remarks on Questions Nos. 11 and 12 apply only to cod trap-nets, as there are no others in the Gulf division.

QUESTION No. 13.—*What are, in your opinion, the best measures to adopt in order to protect and improve the shad fishery?*

NOVA SCOTIA.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
R. J. Pollock	Enlargement of mesh of net to $5\frac{3}{4}$ inches to catch mature fish only. The abandonment of weirs. It is apparently useless to hatch shad in the rivers, to be subsequently slaughtered before they are full grown.
G. Rowlings	From Halifax east along the shore to the county line, there is no shad. The mill-dams have destroyed this class of fish and injured many others. The only remedy I know of is to have the dams built with an efficient fish-pass. A poor fish-pass and a poor warden will soon cause shad and all other fish to decrease.
W. M. Solomon	Shad is almost an article of the past in this county.
Thomas Day	Last year there was a few taken from here, but we have too much sawdust in our waters, and it is one of the things that is against all fish coming in our rivers.
J. A. Hatfield	The only shad we have are taken from the rivers. I think the best method this fishery is to protect the spawning grounds.
W. M. Bailey	I am of opinion that shad comes to our waters to spawn; they should be protected by a close season. I came to this belief last season after examining a number of shad taken from the Annapolis River last May and found them full of spawn.
J. S. Miller	Our principal fishery is in Scott's Bay, and twice before in this century the shad disappeared from 8 to 10 years: then they returned as plentiful as ever. I hope they will do so this time.

NEW BRUNSWICK.

Henry O'Leary	To have proper nets, a regular size mesh, so that small fish may escape, allowing only proper drift or set nets to be used.
R. Goodwin	That each boat carry not more than 250 fathoms of net. Commencement of season 25th June in all parts of the province of New Brunswick · also two days' close time in each week.
Thomas Barry	The spawning fish should be carefully protected.
Joseph O'Brien	They should be protected when they come to the spawning grounds in May and June.
S. Stewart	They should not be caught before 20th June. Sawdust and refuse from saw mills settling on feeding ground causes the shad fishing to be in a backward state.
J. G. Williston	Stop trap-net fishing for salmon on Miramichi River, and I believe shad will get thick again, as in former years.

QUESTION No. 13—*Continued.*

QUEBEC.

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. A. Verge	No shad fishing in his district.
J. L. Smith	No shad fishing in this district.
Geo. Romeril	There is no shad fishing in this county.
G. T. Annett	The shad fishing of no account on this coast.
A. E. Collas	Nil.
Alexander & Co	No shad fishing here.
Jos. Lemieux	No shad fishing in his division.
Jos. I. Letourneau	No shad fishing in his division.
Johnny Joncas	No shad fishing in his division.
Nap. Levesque	No suggestions to offer to improve the shad fishing.
U. Bhereur	No shad fishing in this division.
Nap. A. Comeau	No shad fishing there.
T. Mignault	There is no shad fishing in his division.
G. Mathurin	None in his district.
John Legouvie	Nil.
Wm. Wakeham	Only a few shad taken in salmon nets. The artificial hatching of shad seems to have been successful elsewhere.

QUESTION No. 14.—*Do you consider it advisable that mackerel and herring gill-nets be taken out of the water in day-time?*

NOVA SCOTIA.

R. J. Pollock	Yes.
J. D. McQueen	I do. By all means have them taken out every morning.
John McDonald	Fishermen should be strictly compelled to take up the nets during the day-time.
C. Robin, Collas & Co	Yes, certainly, mackerel and herring gill-nets should be taken out of the water in the daytime.
James Coady	I do not consider it injurious to the fisheries for gill-nets to be taken out of the water in the daytime.
David Ross	No.
D. F. McLean	Yes.
Lewis McKeen	I do.
R. E. Burke	I think it would be advisable to have the nets taken up in the daytime, as far as mackerel and herring are concerned. It would be very awkward for the cod fishermen to take nets up, as they depend on mackerel and herring for bait when they go out, and it would be impossible for them to take the nets up when they are going cod fishing.
W. Bingham	No. As a general rule, all fishermen bring their nets on shore early in the morning and dry them, and set them again in the evening, except when the weather is too rough, preventing the fishermen from taking them up. At such times the nets get torn.
R. G. Zwicker	No doubt it would be better, but it is a very hard law to the fishermen. During the mackerel hooking season it is very advisable. Some of the fishermen do not keep many nets out during this time, as it frightens the fish into deeper water.

QUESTION No. 14—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. W. Burke & Sons	In shoal water nets should, but in deep water it does not appear to matter much.
Wm. Burke	I do not consider it advisable, as it would be ruinous to the fishermen on this rough coast. They could not attend to taking up nets in the morning and setting them in the evening.
F. W. Bissett	No. They can do no injury except to their owners, who frequently lose numbers of them. It is quite impossible for fishermen to take their nets on shore during the day-time. As nets are often set five miles from shore, the fishermen cannot go there twice in one day; and if only a few mackerel or herring are found, they are used for bait for cod-fish; the boats then remain out all day cod fishing.
D. Grucery & Son	Yes, by all means, as it prevents the fish from coming in shore.
A. LeNoir.	Yes.
Allan McQuarrie	I do, by all means, although the taking of them out would involve much extra labour. Fish taken in the early morning would stand a better chance of being cured properly, and the fish not taken would remain undisturbed and quietly feed on the ground for next night's fishing.
William Cameron	Yes, especially in harbours. When nets remain set in the day-time fish are debarred from entering the harbour. If the nets were taken up during the day they would fish better at night.
G. Rowlings	No.
W. M. Solomon	Would recommend the present system be continued.
D. Evans	Yes, when within 250 yards of the shore.
Thomas Day	I do, particularly within half a mile from traps, as they have a tendency to keep fish from entering the harbour in the day-time, and very few will mesh in the nets during the day.
W. J. McGill	In some places it is impossible to take up gill-nets each morning; but as a rule it is advisable to take them up.
S. O. Parker	Yes, certainly, as it causes the school of fish to split and get out of the bay; it is often a barrier, and they do not come in at all. It is also an obstruction for vessels coming in for bait
J. A. Hatfield	Yes, by all means.
Parker, Eakins & Co.	We think it would be better for everybody to have them taken up in the day-time. The fish do not mesh then, and the nets thus set act as barriers to turn the fish off shore, and prevent the trap-nets below them taking fish. Again, by not having to take their nets up, the fishermen set more nets than they can take care of, and when a school of fish strikes them, they cannot cure them in time to save them from spoiling.
J. R. Kinney	I do. This I deem a most important subject. Many of our gill-net fishermen leave their nets down during the day, simply under-running them. These, I believe, do much towards breaking up the schools of fish.

QUESTION No. 14—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
J. W. Cossaboom	Yes, I think they should be taken out, as it is very injurious to our fishing. Where they are allowed to remain in the water during the day-time, some of the fishermen set so many nets that they cannot take all the fish out of them before they spoil, and by that means it drives the live fish from our shores.
W. M. Bailey	Yes.
J. S. Miller	Most of the herring caught in gill-nets are caught in the night. I think the idea would be a good one to keep them out of the water during the day.

NEW BRUNSWICK.

Henry Murry	No.
C. Cormier	No.
Henry O'Leary	No.
R. Goodwin	No.
T. Barry	Yes.
B. Brown	No.
Joseph O'Brien	Yes.
S. Stewart	Yes.
Jas. Hickson	Yes.
J. G. Williston	Yes.

PRINCE EDWARD ISLAND.

Daniel Davies	It is generally done now.
R. Robbler	Yes.
J. H. Myrick	Mackerel gill-nets should be lifted during the day and prohibited during spawning season; it would be hard to insist on taking the herring nets out, as the season is so short.
A. F. Larkin	Mackerel nets should be raised during day-time; herring nets do no harm.

QUEBEC.

J. A. Verge	None used.
J. L. Smith	It makes little difference, as mackerel and herring seldom mesh in day-time.
Geo. Romeril	Yes, as it impedes navigation, more or less, and these fish seldom mesh in day-light.
G. T. Annett	It makes little difference whether these nets are taken up or not in day-time, as very few would mesh.
A. E. Collas	Nil.
Alexander & Co.	Herring nets are only set for bait at night-time and taken up about sunrise; would consider it useless to leave them out in day-time.
Jos. Lemieux	These nets are always taken out of the water in day-time in his district.
Jos. I. Letourneau	Yes.
Johnny Joncas	Yes; these nets should be raised every day.
Nap. Levesque	It is advisable that herring gill-nets be taken out of the water in day-time.

QUESTION No. 14—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
U. Bhéreur	None in use here.
N. A. Comeau	Yes ; all mackerel and herring nets should be taken up during day-time.
T. Mignault	Yes ; mackerel and herring nets should not be set as to catch fish during day-time ; parties not complying should be prosecuted.
G. Mathurin	It would be advisable to raise the said nets in day-time.
John Legouvé	It does not matter, as they seldom catch fish in day time.
	The whole Gulf Division :
Wm. Wakeham	The mackerel and herring nets should be raised from the water during the day-time. These nets will fish better and last longer if dried every day ; they are always in the way of vessels when left in the water, and keep the fish off shore, but do not catch any.

QUESTION No. 15.—*How are fishermen in your county situated as to supplies of fresh bait ? Have you any recommendations to offer regarding this subject ?*

NOVA SCOTIA.

J. R. Pollock	Sufficient for all requirements.
J. D. McQueen	Bait is plentiful in the spring months, but very scarce after 1st July.
John McDonald	The fishermen of this county can supply themselves with bait nearly every day they wish, as they are well provided with good nets.
C. Robin, Collas & Co	Fishermen in this locality have no means of keeping fresh bait as they should have ; some days it is abundant and others scarce for want of a freezing apparatus. We strongly recommend a freezer to be put up in this vicinity. Fishermen are ruining themselves by buying preserved clams, at high prices and in many cases they are worthless.
James Coady	The lobster fishermen and bankers during the past year have experienced great difficulty in obtaining the necessary quantities of fresh bait.
David Ross	Fair. The only recommendation would be to erect a freezer.
D. F. McLean	Supply of bait is one of the greatest drawbacks in the county to the fishermen.
Louis McKeen	do do do
R. E. Burke	Scarcity of bait could be greatly relieved by the distribution of a few barrels of preserved clams, among the fishermen which they could use in in the absence of fresh bait.

QUESTION No. 15—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
W. Bingham.....	Would recommend the department supply them with bait traps under proper restrictions—that is, each trap placed in most accessible localities under the supervision of responsible parties presided by the overseer of fisheries; the inshore fisherman to be assisted by receiving his bait free and the fishing fleets to pay a nominal figure, the proceeds to be remitted to the department. This would be a great boon to fishermen, who would make quick returns, through not being delayed by waiting for bait, which is often the case during the fishing season.
R. G. Zwicker.....	At times fresh bait is very scarce and sometimes there is none at all.
J. W. Burke & Sons.....	Fairly well. Fishermen in this locality suffer for want of ice-houses to keep their fresh bait in, as bait is not always caught regular from day to day, particularly the squid bait.
W. Burke.....	Not well situated for summer fishing; would recommend that ice-houses be built for preservation of bait in hot weather, and an artificial freezer at each fishing station would, in my opinion, be a great benefit.
F. W. Bissett.....	They generally get a sufficient quantity of fresh bait for their own use.
D. Grucery & Son.....	Very well situated. None.
Alfred LeNoir.....	Fishermen catch their own bait which is plentiful along the shore in spring and summer, and often supply bankers.
Allan McQuarrie.....	The supply of fresh bait is uncertain with exception of clams, &c., a supply which is always within reach at low tides. Bait could be kept in ice, as now done in Canso.
Wm. Cameron.....	Those living in the vicinity of trap-nets are well supplied in this respect, others find their supply of bait very uncertain. If bait could be regularly obtained, cod fishing pays the best of any. I would recommend the department to encourage the erection of refrigerators at various points accessible to the line fishermen. With a continuous supply of fresh bait, the cod and haddock fisheries in this locality are capable of astonishing development.
George Rowlings.....	They generally have plenty, and when they cannot get fish they use clams. None.
W. M. Solomon.....	Poorly situated.
D. Evans.....	We have difficulty in obtaining sufficient bait for our deep-sea fishermen, and any regulations that would prevent the taking of bait fish in trap-nets would be a great injury to our fishermen.
Thomas Day.....	Of late years there has been a great scarcity of bait, the last two years there has been a very few squid. Messrs. Whitman of Canso could furnish you with valuable information regarding frozen squid for bait.

QUESTION No. 15—NOVA SCOTIA—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
W. J. McGill	There is a scarcity of fresh bait. If our rivers were opened up to give alewives an easy passage to their spawning grounds, it would be one of the means to increase the supply of bait in my district.
S. O. Parker	Plenty of bait last year. Would suggest that no *modus vivendi* with the United States should be renewed. Our bait for our own fishermen.
J. A. Hatfield	Bait supply is no more than sufficient for our own fishermen. In many instances the shore and fishing fleet are unable to obtain enough bait to enable them to continue their catches. Our Government must rigidly preserve all our fresh bait for provincial fishermen.
Parker, Eakins & Co.	Very badly situated; it is the greatest difficulty the fishermen have to contend against. Would recommend every means be tried to induce Newfoundland to remove the restrictions against Canadian vessels obtaining bait on their shores.
J. R. Kinney	Fairly supplied. The early take of alewives and spring herring cannot supply the demand. Later the traps supply the needs of the cod fishermen.
J. W. Cossaboom	They are not very well supplied with fresh bait. The greatest destruction is killing so many small herring for sardines, and if allowed our fishermen will be without bait in a few years.
W. M. Bailey	Generally short; in the early spring and late summer plenty of ice provided by our fishermen would help; also taking care of bait by freezing when plentiful.
J. S. Miller	Until a few years ago had a good supply; since then at times, they have been short. Fishermen complain of lobster traps, and say when the traps are set they can't get any bait, the traps being baited with gurry and string along the shore one-quarter to one-half a mile distant. The fishermen state the herring will not come inside the line of traps.
S. P. Burnham	Do not use it. None.
NEW BRUNSWICK.	
Henry Murry	They use very little. None.
C. Cormier	Well supplied. No.
Henry O'Leary	Well supplied with bait. I recommend that the bounty should be given towards the construction of proper boats to fish in deep water and on the banks; a great deal is now given to small shore boats that don't earn it.
R. Goodwin	No scarcity of bait until last year, when it had to be imported, costing $4 per barrel. As a general rule the demand regulates the supply.
Thomas Barry	Bait is plentiful during most of the year.
B. Brown	Bait at times is scarce, as the weir owners sell the small herring to sardine buyers.
D. F. Campbell	The supply of bait is generally good. Weir owners often charge too much for bait when it is scarce.

QUESTION No. 15—NEW BRUNSWICK—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
F. Todd	Seldom troubled by scarcity.
Joseph O'Brien	Bait is very scarce—almost impossible to obtain an and vessels have to be hauled up as the fisherme cannot make it pay.
S. Stewart	There is plenty of bait, but only net fishing is carrie on here.
Jas. Hickson	The fishermen are generally well supplied with bai
John G. Williston	The fishermen are well supplied with bait. I woul recommend the oyster close season be change to 1st May to 1st October, instead of 1st June t 15th September.

PRINCE EDWARD ISLAND.

David Davies	Herring bait is abundant during May. Bait always scarce during summer and autumn. Cla bait is largely used, and is found in the sand whe the tide ebbs. The supply is very limited.
R. Robbler	Very poorly. If the department would supply an recommendation as to the best means of keepin bait fresh, we would feel grateful.
J. H. Myrick	Very badly indeed, and a great loss is incurred i searching for bait; is a great drawback to th fishermen. If a sure supply of fresh bait could b provided for the fisherman, difficulties under whic he is now labouring would be greatly remove We recommend that the department encourage good class of fishermen to migrate during the fis ing season, and have built and operated at centr points freezers and cold stores, to provide a goo supply of fresh bait.
A. F. Larkin	Local fishermen well supplied. None.

QUEBEC.

J. A. Verge	None used here.
J. L. Smith	Thinks fishermen should be allowed to take smelts f bait at all times, free of charge.
Geo. Romeril	Fishermen are often idle for want of bait. Th freezing of bait is being experimented by this fir at head of Baie des Chaleurs, so far with succes Large quantities of herring and caplin are year used as manure by the farmers, which tends t cause the further scarcity of these bait fish.
G. T. Annett	Bait vary in quantity and quality with each seaso No recommendation to make now.
A. E. Collas	Scarcity of bait could be obviated by the adoption the frozen bait system which they are now e periencing with successful results.
Alexander & Co	Very often valuable time is lost for want of bai sometimes having to go over twenty miles for i Cannot see how to improve this want.
Jos. Lemieux	Fishing is always carried on here with fresh bai when it runs out there is no fishing.
Jos. I. Letourneau	Bait is kept in cold water; some have ice-hous The remedy is more ice stores to keep it fresh.

QUESTION No. 15—QUEBEC—*Continued.*

FISHERY OFFICERS AND OTHERS.	ANSWERS.
Johnny Joncas	Nil.
Nap. Levesque	No bait used here. No suggestion offered.
U. Bhéreur	None used here.
	NORTH SHORE:
Nap. A. Comeau	The bait supply is generally sufficient here. When herring, caplin or lance fail, the fishermen still resort to clams and other shell fish.
T. Mignault	On the north coast bait is generally procured with seines.
G. Mathurin	The best way to secure bait on the north coast is with seines. Some use nets.
John Legouvé	The bait supply is good.
	THE WHOLE GULF DIVISION:
Wm. Wakeham	No other but fresh bait used ; it is often scarce and uncertain. The practice of using herring and caplin for manure should be stopped. These fish could be frozen in the early spring and kept fresh when other bait would fail. This is being experimented and soon most of the fishing firms will be provided with freezers for that purpose. On the north shore the supply of bait shows no sign of decrease.

INLAND FISHERIES.

UESTION No. 1.—*Give the names of all rivers and streams in your county frequented by salmon and other fish for the purpose of depositing their spawn, with the different species of fish and the times of year at which they respectively ascend those waters.*

QUEBEC.

FISHERY OFFICERS.	ANSWERS.
Alfred Blais, Causapscal	Metapedia, Causapscal, Amqui, Metallic Brook, St. Pierre and Little Matane Rivers. In the two first, salmon and trout are found ; in the others, only trout. These fish spawn in October and November.
J. F. Picotin, Drummondville	River St. Francis. Salmon ascend for the purpose of spawning between the 15th June and 15th July yearly, pickerel during the month of May, and bass later on. Carp also ascend in great numbers in May and June.
Joachim Laberge, Châteauguay asin.	Rivers Châteauguay, Turgeon, du Marais, des Fèves, aux Anglais, Ste. Clotilde d'Aubray and Blanche de Corbin are frequented by maskinongé, bass, pickerel, pike, sturgeon, eels, carp and other coarse fish. These fish spawn between the 15th April and the 15th July.

QUESTION No. 1—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
John Kelly, Beauharnois.....	St. Louis River, county of Beauharnois; Grosse Isle River from Valleyfield to St. Timothée, Châteauguay, Trout, Hinchinbrook, Salon, Legarre, in the County of Huntingdon. Black bass, pickerel, pike, perch, rock bass, sturgeon, maskinongé and trout frequent these rivers. The spawning season commences about 15th April and ends about 15th June.
J. O. Dion, Chambly Canton..	Richelieu or Chambly River, Little Montreal River, River des Hurons. Perch, barbotte, pike, pickerel, bass, eels and carp ascend these rivers during the month of May until the end of June. Maskinongé and shad are very scarce. Fresh water herring is disappearing.
J. B. Chevalier, Iberville.....	Richelieu River, Hazen, Barbotte, Jones, Bleury, South, Lacolle, are frequented by pickerel, bass, pike, carp, barbotte, perch. These fish spawn in the month of April.
P. E. Luke, Philipsburg.....	Missisquoi Bay, Pike River. Frequented by pickerel, which ascend about 20th April to spawn. Suckers and mullet ascend during May; also pike, maskinongé, bass, perch, eels and bullheads remain in river all summer. Street's Pond frequented by pike and bullheads. Selby Lake, Dunham township, frequented by bass, pike, suckers and salmon-trout.

EASTERN TOWNSHIPS.

P. W. Nagle, Sherbrooke.....	Nil.
Joel Shurtleff, Compton.....	Salmon River No. 1 and Salmon River No. 2, the former frequented by salmon in October and the latter by trout; these fish ascend in October. Rivers Moes, Coaticook, Eaton, Scotstown, Chaudière, Spider, Arnold and St. Francis; these rivers are frequented by bass, trout, salmon, pike and maskinongé. Trout ascend these waters in October.
A. L. Darche, Sherbrooke....	Rivers St. Francis and Maskinongé. The former is frequented by salmon, pike, bass, doré and maskinongé. Salmon ascend 1st July to 15th August; the other fish from 1st April to 15th May. The latter river is frequented by pike, bass, doré and maskinongé from 1st April to 15th May.
J. B. McDonald, Echo Vale ..	Rivers Chaudière, Spaulding, Arnold, Victoria, Spider and Annance frequented by suckers, bass and trout in June to September.
V. Veilleux, St. Ephrem de Tring.	No salmon in our streams.

QUESTION No. 1—QUEBEC—*Continued.*

RIVER ST. LAWRENCE—LAKE ST. PETER.

FISHERY OFFICERS.	ANSWERS.
D. Shooner, Pierreville.....	Rivers St. Francis, Yamaska, Lake St. Peter, frequented by maskinongé, bass, doré, perch, suckers, sturgeon, pike and barbotte. These fish ascend between 15th April and 1st June.
Geo. Boisvert, Bécancour.....	Rivers Nicolet, Bécancour, Gentilly and Aux Orignaux frequented by bass, doré and common fish. They spawn in May.
S. A. Grant, Louiseville.....	No salmon or other fish spawn in the rivers here.
Jos. Charbonneau, St. Césaire.	Yamaska River, Black River, Barbue River and South-west River.
Jno. Morris, St. Lambert.....	Rivers Laprairie, LaTortue, Précipice and Little Lake. Pike, bass, doré, maskinongé, eels and perch are found in these waters. Carp is found at the mouths of these streams when ice disappears. These fish spawn about the 1st June.
A. Robert, Lachine	Only part of the St. Lawrence River.
Jos. Lauzon, Terrebonne.....	Rivers Laprairie, St. Jean Baptiste and Duchêne, are frequented by doré, pike, bass, perch, carp, sturgeon, eels, &c. Spawning commences the beginning of May.
J. Filiatrault, Ste. Adèle	Nil.

OTTAWA RIVER DIVISION.

R. Jones, St. Andrews East ..	Rivers Ottawa, North, Rouge, where the fish ascend in the spring.
R. Joynt, Joynt P.O.....	Nil.
Jos. Marion, Hull.	The Ottawa River and the following tributaries: Gatineau, Grande Blanche, Le Lièvre, Petite Blanche, Nation and Salmon River, in which pickerel, bass, pike, carp, &c., ascend to spawn between 15th April and 15th June.
J. T. Coghlan, Chapeau.....	Black River, Creighton's Lakes, Calumet Creek, Nicaba Creek and Sullivan's Creek. Maskinongé, pike and black carp ascend between 15th April and 15th May. Bass and pickerel from 15th May to 15th June.

ONTARIO.

LAKE SUPERIOR.

Thos. Keefer, Port Arthur....	Names of streams not given. Speckled-trout, whitefish, pickerel and sturgeon ascend the streams to spawn. Not positive as to the dates.

NORTH CHANNEL.

Isaac Turner, Little Current..	Whitefish River is frequented by whitefish and (doré) pickerel, which ascend therein to spawn in the fall and spring respectively.
Robt. Boyter, Gore Bay, Manitoulin Island.	Michael, Providence and Sriggly Bays, south of Manitoulin Island,—frequented by trout from 1st of October till middle of November.

QUESTION No. 1—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
F. Prout, Bruce Mines.....	Walker's River. Pickerel go up in April.
	LAKE HURON.
R. H. Murray, Allenford.....	None.
Hugh McFayden, Durham....	Saugeen River, its four branches, and Beaver River, —frequented by speckled-trout; beginning to spawn about 1st September.
J. C. Pollock, Forest.....	Not any.
H. W. Ball, Goderich.....	In Maitland River, black bass, pickerel and suckers ascend to spawn. Bass and pickerel commence spawning about 10th May.
H. B. Quarry, Parkhill.....	The Bayfield and Aux Sables Rivers. Bass and coarse fish ascend beginning of May.
	LAKE ST. CLAIR AND TRIBUTARIES.
C. W. Raymond, Mitchell's Bay.	Pike and pickerel spawn in spring about the last of April and beginning of May.
P. McCarron, Wallaceburg...	River Sydenham and branches,—mullet, suckers, pike, pickerel and small bass, a few maskinongé, —commence to run up 1st March, leave 15th May.
T. McQueen, Chatham.....	Only the River Thames, in county Kent, Baptiste Creek, Jeannette Creek, Indian Creek, are the only streams that are frequented by bullheads, catfish and a few pike, which ascend in the months of January, February, March and April.
P. McCann, London.....	The north branch of the River Thames runs through St. Mary's, in the counties of Perth and Middlesex, towards London, where it meets and joins the south branch, forming the main River Thames, running to Lake St. Clair. The principal fish are pickerel, bass, and large quantities of coarse fish, which ascend the Thames about the middle of March or early in April, according to the breaking up of the ice. The above applies more particularly to pickerel and bass, as coarse fish run up the river as late as the last of April or the beginning of May.
Jos. Boismier, Sandwich.....	Detroit River, Canard River, Turkey Creek, Little River, Roscow River, Puce River, Pike Creek, Belle River, Baptiste Creek, Jennette Creek, River Thames, in which are found whitefish, bass, herring, pickerel, maskinongé, pike and coarse fish. Whitefish and herring ascend from the 1st of October; pickerel, bass, pike, maskinongé begin to ascend from the 1st of April.

QUESTION No. 1—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
	LAKE ERIE.
Wm. Prosser, Leamington....	Big Creek, near mouth of Detroit River, is the only stream in this division in which fish of any account spawn—from the last of April and beginning of May.
David Girardin, Point Pelée..	There is no regular stream in this district running the whole year. Cedar Creek, at Kingsville, Big Creek, near Amherstburg, and Sturgeon Creek, near Leamington, in spring are frequented by a great many pike and suckers, which I think, deposit their spawn therein. These creeks get closed with sand during dry season.
John McMichael, Blenheim...	Kettle Creek, Port Stanley, Catfish Creek, Port Bruce, are the only streams in this county. They are frequented by suckers, mullet and catfish only, during the months of March, April and May.
David Sharp, Port Ryerse....	The only streams in which fish go to spawn are Big Creek, Port Rowan Bay—about the months of April and May; Black Creek, at Port Dover, may be frequented by pike only in the spring of the year.
C. W. Evans, Cayuga.....	The Grand River is the only stream in this district which bass, pickerel and maskinongé ascend for the purpose of spawning—during April, May and June.
W. P. Croome, Brantford.....	Grand River, Whiteman's Creek, River Nith, River Speed, in which bass ascend the streams during the latter part of May and June, pickerel during the month of May, and pike during the month of April and early in May.
Geo. Price, St. Williams	Has charge of Long Point Island, extending in Lake Erie, which has a large marsh on the north side with several openings to the Inner and Outer Bay, called creeks. The fish ascend those creeks to spawn, as follows:—Pike, from 1st of April to 1st of May; pickerel, from 15th of April to 15th of May; bass and maskinongé, from 1st of May to 15th of June.
	LAKE ONTARIO.
Fred. Kerr, Hamilton.....	Niagara River and Twenty-mile Creek are the only streams that are in my division proper. The former is frequented by pickerel, bass, sturgeon, perch and herring and a few whitefish. The pickerel and sturgeon ascend the river from Lake Ontario to spawn, the former in April and May, and the latter in the end of June and the month of July. The Twenty-mile Creek runs across part of this district. Speckled-trout frequent it at all times.
Wm. Sargent, Bronté.....	In Credit River, Sixteen-mile Creek and Twelve-mile Creek salmon, bass, mullet, pike and suckers run up from about 15th April to 15th May to spawn.

QUESTION No. 1—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Wm. Helliwell, Highland Creek,	River Rouge, Highland Creek, Humber, Mimico, Etobicoke.—Formerly salmon frequented all of the above streams, but of late years, from the clearing of land and draining of swamps and the consequent diminishing of the water, salmon is very rarely seen. In the month of March and April, if there is any rain and the streams are swollen, coarse fish ascend all the above streams. Formerly, in the month of June, mullet, a very superior fish to suckers, came in great numbers, but for some cause unknown they do not now return to the streams. Pike and bass come into the Don and Humber Rivers and estuary of the Highland Creek about the same season, viz., March and April.
Chas. Gilchrist, Port Hope ...	There are no salmon coming up the streams of this division. Pike and bull-heads come up some of the streams in the spring of the year to spawn where there are marshes; they do not go up far.
W. P. Clarke, Belleville.....	Trent River, Moira River and Salmon River are the only streams in the county of Hastings. Pike, pickerel and suckers are the only fish that run up these rivers to any extent. Pike commence to run about the 1st April and for about a month. Suckers commence about five days after the pickerel and stay until about the 10th of June.
Jos. Redmond, Picton	None.
A. D. Sills, Napanee	In Napanee River pike, pickerel and coarse fish ascend during April and May to spawn.
R. R. Finkle, Bath.....	No rivers and streams in my district, only Bay of Quinté and Lake Ontario. Salmon-trout and whitefish spawn from 1st October to 1st November, pickerel and bass from 15th April to 15th June.
Peter Kiel, Wolfe Island.....	There are no rivers or streams in this district that are frequented by salmon or any other kinds of fish for the purpose of spawning.
	INLAND WATERS.
Thos. Merritt, Kingston.....	Loughboro' Lake, Dog Lake and Lake Ontario and St. Lawrence River contain salmon-trout, catfish and herring which go to the spawning beds. In October and November these waters also abound with bass, maskinongé, pickerel (doré), pike and coarse fish which deposit their eggs in April and May.
N. Acton, Gananoque.....	There are no streams excepting the Gananoque River, which fish cannot ascend to spawn on account of falls.
Henry Hunt, Rockport	None.
T. McGarity, Cornwall.....	There are no salmon in this district. Suckers and other coarse fish ascend from Lake St. Thomas about the 1st of May in the River aux Raisins up to about 15th June.
P. St. Pierre, Pointe Fortune..	None.

QUESTION No. 1—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
O. Miron, Alfred.....	South Nation River, Bearbrook and Skoath River frequented by pickerel, bass, pike and all kinds of coarse fish, about 15th April to 15th May.
W. W. Boucher, South March.	Ottawa River, Constant Creek and Lake, Carp River. Bass ascend last week in May and first week in June; pickerel during the month of May; maskinongé last of April and first of May; whitefish ascend about the first week of November; coarse fish from 15th April to 15th May.
John Grant, Forester's Falls..	Madawaska River, Bonnechère, Muskrat, Indian, Petewawa and Chalk Rivers. Several kinds of fish ascend in the spring of the year.
J. S. Richardson, Sturgeon Falls	In the district of Nipissing the Mattawa River has no fish worth mentioning, as about 60,000,000 feet of logs are driven down that river every summer, and the bark and gum that detach from them destroy the fish. Pike, pickerel, maskinongé, suckers, sturgeon ascend the Sturgeon River for spawning from about 15th April to 15th July. They ascend the Veuve River, and go into different streams and lakes about 60 miles up; the South River and the Wissawasa River, from about 15th April to 15th July. There are also a great number of little fish.
George R. Steele, Lorimer Lake.	The streams which are frequented by pickerel, bass, herring, pike, salmon-trout, maskinongé and suckers for the purpose of depositing their spawn, are as follows: Part of Seguin River, Boyne River, East River, Sheboishkong River, Shawanaga River, Magnetawan River, White Stone River. The spawning season for pickerel, from 10th April to 15th July; bass and maskinongé, 15th April to 10th June; whitefish and salmon-trout, 15th October to 15th November.
J. G. Rumsey, Huntsville.....	Maganetawan River, Muskoka River (north branch), Ox Tongue River and a large number of land-locked lakes. Salmon-trout spawn about October 15th, but varies in the different lakes; speckled-trout spawn as above; whitefish and pickerel not known, as no netting is allowed in his division.
H. W. Gill, Ufford.....	The fish nearly all spawn in the lakes; pickerel, however, frequent one or two small streams for the purpose of depositing their spawn, which is generally in April. The spawning season for salmon-trout is generally October, for whitefish November, for bass the end of May to middle of June.
Henry Castle, Gravenhurst...	None.
L. S. Sanders, Barrie.....	The only stream (no rivers) in his district which enters Lake Simcoe is the Lollendale. The kind of fish found in this stream are chub, dog-fish and suckers. He is not aware what time in the year these fish spawn, as he has never paid any attention to them.

QUESTION No. 1—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
A. Hughson, Orangeville.....	The River Credit is the only one that is frequented by trout. Salmon-trout come up the river as far as the Credit Forks in the fall of the year. Speckled-trout are also found chiefly in the upper portion of the river, say from the forks to Orangeville and neighbourhood, and also in Caledon Lakes.
N. Simmons, Meyersburg.....	Trent River is the principal stream in this division, although there are other small creeks and streams inhabited by fish, such as Coal Creek, Salt Creek, Meyersburg Creek and Trout Creek. Some years ago there used to be salmon in the Trent River, but none are now seen. Pickerel from Chisholm Rapids come all the way to Meyersburg to spawn, as it is the only suitable place. They ascend from the 15th April to 8th May. Maskinongé go to the drowned lands or on mud bottoms to lay their ova, about the same time as the pickerel. The bass spawn in deeper waters from April until June.
G. W. Fitzgerald, Lakefield...	Otonabee River, Indian River and Pigeon Creek, are frequented with bass and maskinongé, which ascend them in April and May to spawn. The only water that salmon-trout has been caught in is Stony Lake; they spawn from about the 20th of October to the 15th November. There is plenty of whitefish in Stony Lake; they spawn in first half of November.
David Breeze, Peterboro'.....	Otoanbee River, Indian River and River Ouse, all empty into Rice Lake and are frequented by bass and maskinongé. Bass run up these streams from about the 1st of May to 10th June, and maskinongé from about 20th April to 20th May.
Wm. Gainsforth, Haliburton..	Trout, the only fish in this district, do not ascend the rivers but spawn in the lakes from 1st to last of October.
R. A. Gilbert, McLaren Depot.	In the district of North Addington, the following lakes: Upper and Lower Trout, North and South Crotch, Gull, Rice, Malcolm, Long, Indian, Brulé, Shaw, Fortune, McKay's, Schooner, Clyde, Red Horse, Mair's, Norway, are frequented by salmon-trout and whitefish, spawning between 15th October and 30th November. In the two first are found speckled-trout.
Geo. Lake, Tichbourne.....	In the following lakes: Desert, Devil, Canoe, West Rideau, Green Bay, Crow, Eagle, Sharbot, Gull, Silver and Madawaska, some salmon-trout and whitefish commence to spawn about the 10th October till the last of November. Bass and other kinds of fish spawn in month of May.
Wm. Hicks, Athens.....	In Charleston Lakes, Lyndhurst River and Rideau waters there is valuable fish, such as bass, whitefish, pickerel, &c.

QUESTION No. 1—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Geo. Jeacle, Westport.....	The only streams frequented by salmon-trout in my division are the lower Rideau. They generally spawn between 1st October and 15th November. The same waters are well stocked with whitefish, whose spawning time is generally over by 15th November. Whitefish also found in Wolf Lake, Indian Lake and Whitefish Lake, which run into Morton. Bass, pike and shiners are plentiful in said waters as well as bullheads, eels and suckers.
John Murphy, Perth.....	In the Rideau Lakes, salmon spawn from 8th to 25th October; whitefish, if weather is cold, end of October, if warm a week earlier. Bass spawn on sandy banks last of May to June 15th. There are only black bass in the inland lakes.
Eph. Deacon, Bolingbroke....	Clyde, Mississippi, Fall and Tay Rivers, are frequented by pike, pickerel, black blass and whitefish, which with the exception of the latter, spawn from 1st April to 1st May; whitefish in November.
A. Wilson, Carleton Place....	The Mississippi and Carp Rivers, where fish spawn in April and May.
R. O. Campbell, Kemptville ..	The rivers or streams are: 1st, Rideau, from Burritt's Rapids to Ottawa; 2nd, south branch of Rideau, from Baker's Mills to mouth; 3rd, Stephen's Creek; 4th, Jock River, emptying into Rideau below Manotick. Frequented by pike about 1st April; black suckers near same time; pickerel in April; maskinongé last May and first June; black bass, speckled and rock bass in July. I do not know when eels and mudpout spawn, but both are mostly destroyed by drawing off the water of the river every fall.
Geo. Russell, Arnprior.....	Madawaska and Bonnechère Rivers. Whitefish and salmon in November, pike in April, pickerel in May, black bass May and June.
M. L. Russell, Renfrew.....	Maskinongé ascend Bonnechère and tributaries. Bass, 15th April to 15th June; pickerel, 10th April to 10th May; pike and maskinongé, 10th April to 1st July. Trout ascend and frequent upper lakes about month of October.
H. Gallagher, Sebastopol.....	Bonnechère, Madawaska, Constant Creek, Hurd's Creek and other small tributaries are frequented by salmon-trout, pike, bass, pickerel, perch, chub, speckled or brook trout and whitefish and eels. Salmon-trout begin to run about full moon in October. As for other kinds, do not know their habits; am not very well informed on the subject.
Geo. Douglas, Snake River ...	No salmon in any river in this county.

QUESTION No. 2.—*Are the laws regarding the close season and illegal netting and spearing observed?*

NOTE.—For address and districts of Fishery officers *see* answers to Question No. 1.

QUEBEC.

FISHERY OEFICERS.	ANSWERS.
Alf. Blais	As far as salmon is concerned the laws are observed, but as to trout, the area is so extensive that he could not, without special guardians, answer for illegal fishing during its long close season.
J. F. Picotin	Fairly well observed. No spearing.
J. Laberge	The close season regulations were fairly well observed. There is no spearing done here.
J. Kelly	Well observed.
J. C. Dion	Fairly well observed.
J. B. Chevalier	Generally observed.
P. E. Luke	Very well observed.
P. W. Nagle	Yes, strictly observed.
J. Shurtleff	In some localities they are not observed, there being no guardians.
A. L. Darche	Yes.
J. B. McDonald	Fairly well.
V. Veilleux	Fairly well.
D. Shooner	Fairly well observed.
G. Boisvert	Generally well observed.
S. A. Grant	Generally well observed.
J. Charbonneau	Generally well observed.
Jno. Morris	Yes; well observed.
A. Robert	Yes.
Jos. Lauzon	Yes.
J. Filiatrault	Yes; as far as he knows.
R. W. Jones	Yes.
J. T. Coghlan	Not to the letter of the law.
R. Joynt	Yes.
Jos. Marion	To his knowledge the laws have been generally observed, but he does not think a couple of visits by the overseer sufficient during the whole close season.

ONTARIO.

Thos. Keefer	No.
Isaac Turner	Does not think there are illegalities; could not secure evidence of any.
Robt. Boyter	Yes.
F. Prout	He thinks so.
R. H. Murray	Yes; strictly.
H. McFayden	The close season well observed.
J. C. Pollock	Yes.
H. W. Ball	Close seasons well observed.
H. B. Quarry	They are.
C. W. Raymond	Yes. There is no spearing in the Chenal Ecarté.
P. McCarron	No; not strictly. Very difficult to watch everybody.
T. McQueen	The laws regarding close season and illegal netting are invariably well observed. No spearing carried on in his division.

QUESTION No. 2—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
P. McCann	The laws are generally well observed. Young farmers are given to spearing as much for amusement as for gain, in the rapids. Occasionally they carry on net fishing, not systematically, but fishing one night at one place and at a different place the next night. It is difficult to secure evidence to convict guilty parties.
Jos. Boismier	The laws against illegal netting and spearing are observed in my district.
Wm. Prosser	Yes.
David Girardin	To the best of his knowledge the close seasons are well observed. No other fishing carried on here except pound-net fishing, as all other fishing would not pay.
Jno. McMichael	Yes.
David Sharp	They are.
C. W. Evans	These laws are fairly well observed.
W. P. Croome	Fairly well observed.
Geo. Price	The laws are observed.
Fred. Kerr	Yes.
Wm. Sargent	Fairly well.
Wm. Helliwell	Yes.
Chas. Gilchrist	The laws respecting close seasons, illegal netting and spearing are observed, except in Rice Lake and tributaries. There is some spearing and shooting the maskinongé going on in the spring, but he watched the poachers so closely that there is not much of it done lately.
W. P. Clarke	In the Bay of Quinté the law is very well observed.
Jos. Redmond	Close season laws are well observed.
A. D. Sills	The law regarding spearing has never been enforced in this division.
R. R. Finkle	Yes.
Peter Kiel	Laws regarding close seasons and all other fishery regulations are strictly observed.
Thos. Merritt	Yes.
N. Acton	They are well observed.
Henry Hunt	Yes.
T. McGarity	In the neighbourhood of Lancaster there has been illegal netting, but have not been able to detect guilty parties.
O. Miron	Well observed.
W. W. Boucher	Yes ; very well.
John Grant	Yes ; when compelled by the law.
J. S. Richardson	Yes ; they are very well observed.
Geo. R. Steele	The close seasons and other fishery laws are fairly observed. Some cases of violations in close seasons are difficult to detect, owing to the offences being committed at night. There is no spearing carried on.
J. G. Rumsey	Netting altogether prohibited. Spearing a difficult matter to contend with, but on the decrease. Close season fairly observed.

QUESTION No. 2—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
H. W. Gill	Latterly the laws have been generally observed. Illegal netting and spearing are still occasionally carried on, but the offenders are very hard to convict owing to the unwillingness of neighbours to lay any information or give evidence.
Henry Castle	Yes.
L. S. Sanders	Yes; they are well observed.
A. Hughson	The close season is pretty well observed. At some lakes ice is taken for summer use, and it is difficult to prevent parties from fishing at such times. It would take a guardian at this lake all the time.
N. Simmons	The law has been better observed this last season than I have ever known it to be before. No spearing done to his knowledge.
G. W. Fitzgerald	I have had trouble in the Stony Lake with illegal netting, but getting it stopped; some spearing done in spring.
David Breeze	There is a tendency to violate the close seasons in the Otonabee and Indian Rivers, unless they are well guarded.
Wm. Gainsforth	Yes.
R. A. Gilbert	They are well observed.
Geo. Lake	Pretty generally. Some violations.
S. Boddy	Yes.
Wm. Hicks	The law in my division is being better observed this last season than in the previous one.
Geo. Jeacle	They are generally very well observed.
John Murphy	As well as possible.
Eph. Deacon	They generally are.
A. Wilson	The laws regarded in every particular, except spearing in spring when river overflows.
R. O. Campbell	My district is watched closely by day and night. Have not seen nor learned of any illegal fishing.
Geo. Russell	Not very well.
M. L. Russell	Yes.
H. Gallagher	No. Fish are more plentiful in those waters now than they have been for a long time.
Geo. Douglas	The laws are regarded as close as possible during close season.

QUESTION No. 3.—*Are the dams across streams frequented by fish, provided with fish-ways or passes, according to law? If not, state the localities and name of delinquent mill-owners; and suggest, if you can, any improvements in the fish-ways or passes in use.*

QUEBEC.

Alf. Blais	There is no fish-way in Belisle's dam, but it is considered as a protection to salmon rather than a nuisance, in preventing it from being destroyed further up. A special guardian is kept at the said dam by Lord Mount Stephen.
J. Laberge	The following dams are still unprovided with fish-ways:—Gilbie's at Howick; Lemieux's at Aubry; Leclair's at St. Chrysostôme; Brown's of the same place; Coupal's, Corbin's, Anderson's, and Curran's, all at Corbin.

QUESTION No. 3—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
J. F. Picotin	Only on the River Nicolet, where a few are still in operation. As to the names of the mill-owners, would have to visit the locality again, owing to the property changing owners frequently.
J. Kelly	Dams and fish-ways kept in good order.
J. O. Dion	At St. Ours tannery a new pass is required to enable the fish to go through during low water. The mill above Ruisseau Massé has no pass, the water being all required to operate the machinery of the mill. I would suggest a clause in the law that would compel the parties interested to construct these passes according to the views of the department.
J. B. Chevalier	Lacolle River is completely barred by a dam, in which there is no pass, and one should be made.
P. E. Luke	There are three dams unprovided with fish-passes—one owned by the Eastern Townships Bank at Bedford, another by Mrs. DesRivières of Malmaison, and the last by the Pike River Mill Co., of St. Charles de Stanbridge.
P. W. Nagle	Yes.
J. Shurtleff	In some localities they are not as they should be—Salmon Rivers Nos. 1 and 2, Coaticook, Salmon River at Scotstown, P.Q. The mill-owners are Parker & Genks, Glasgow and Canadian Land and Trust Co., and Scotstown Pulp Co. There are no fish-ways in Salmon River No. 2. The mill-owners are Richard Palister, Geo. Cleveland, Cass Bros., and P. Gosselin. In Moes River there are no fish-ways.
A. L. Darche	Yes.
J. B. McDonald	Yes.
V. Veilleux	Yes.
D. Shooner	Yes.
G. Boisvert	Yes.
S. A. Grant	None required.
J. Charbonneau	There are a number without fish-ways, and it is better to wait until the fish increase before building them.
Jno. Morris	None.
A. Robert	No dams.
J. Lauzon	Yes; with one exception, and this is owned by Meunier & Brother.
J. Filiatrault	None.
R. Jones	No; the mill-owners are Hugh Walsh, Earls Bros., Ireland & Bannerman and James Fish. There are also some small streams with mills and dams, but no passes.
R. Joynt	None.
Jos. Marion	The Government dam at Grenville is still unprovided with fish-pass. Fishermen complain that the fish cannot ascend.
J. T. Coghlan	No obstructions on these streams to prevent the fish ascending.

QUESTION No. 3—*Continued.*

ONTARIO.

FISHERY OFFICERS.	ANSWERS.
Thos. Keefer	A dam at head of Carp River, which is frequented by fish, is unprovided with fish-way. It is owned by the Ontario Bank.
Isaac Turner	No dams.
Robt. Boyter	There are fish-passes in dams at Sriggly Bay, but none in R. W. Mutchmore's dam at Providence Bay, nor in the Michael's Bay Co.'s mill-dam.
F. Prout	No dams at all.
R. H. Murray	Hears no complaints of any kind.
H. McFayden	Two dams, whose fish-ways were swept away by freshets, will be replaced during low water. There are falls as high as 70 feet, which fish could not ascend.
J. C. Pollock	Not any.
H. W. Ball	A dam at Auburn is still unprovided with fish-ways. The owner's name is Mr. Webb.
H. B. Quarry	None.
C. W. Raymond	There are no dams on the Chenal Ecarté.
P. McCarron	Don't know of any dams.
T. McQueen	There are no dams across streams frequented by fish in my division. The mill-owners invariably observe the laws respecting inland fisheries.
P. McCann	Yes; the dams in the county of Middlesex are all provided with excellent fish-ways. I have observed that pickerel are a "ground fish," and very little will obstruct them in their course. In my judgment, fish-ways on streams where pickerel run should be carried clear to the bottom of the river, then the current of water would, when passing through the fish-ways, attract the pickerel and larger numbers would ascend the streams.
Jos. Boismier	There are no dams. All fish have free passage in rivers and streams in my district.
Wm. Prosser	None.
David Girardin	I don't know of any.
John McMichael	There are two dams unprovided with fish-ways, but, in his opinion, they do not require any, and he has so reported to the department.
David Sharp	There are no fish-ways in my district, and I do not consider they are needed.
C. W. Evans	Yes.
W. P. Croome	The dams are provided with fish-ways, excepting the dam at Brantford, owned by Mr. A. Watts; and the one at Galt, the owners of which have been given until next season by the department to build a new fish-way. The fish-ways work well that we have, when built sufficiently strong to stand the ice.
Fred. Kerr	Yes; except at the Government dam at Dunnville, Grand River, where a proper fish-way is badly required. The one that exists at present is insufficient and useless, as I consider it not constructed in the right place, and I understand no fish has been observed ascending said slide since its construction.

QUESTION No. 3—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Wm. Sargent	All but one, in Sixteen-Mile Creek, at Isaac Worcup's mill in Oakville.
Wm. Helliwell	There are no passes or fish-ways on any of the streams, and he does not think any are needed.
Chas. Gilchrist	There are no fish coming up the streams in my division fronting on the counties of Northumberland and Durham that require fish-ways. Such fish as pike and bull-heads do not ascend the streams any distance, but deposit their eggs in the marshes. The maskinongé and bass ascend the Trent River as far as Hastings, where there is a Government dam unprovided with fish-way; and the maskinongé and bass ascend the Otonabee River as far as the locks and Government dam, and no fish-way there either.
W. P. Clarke	There are no dams in my district, as it includes no rivers.
Jos. Redmond	None in this division.
A. D. Sills	There are no dams needing fish-ways in this division.
R. R. Finkle	None in my district.
Peter Kiel	There are no streams or water mills.
Thos. Merritt	There are no dams in my division.
N. Acton	There are two dams on the Gananoque River without fish-ways, but they are both at falls of say 9 or 10 feet; fish-ways on these would be useless.
Henry Hunt	No rivers or dams.
T. McGarity	Fish-ways at Martintown and Williamstown on the Rivière aux Raisins were built last fall.
P. St. Pierre	Carillon dam, blocking the River Ottawa altogether, has no fish-way.
O. Miron	Well provided with fish-ways.
W. W. Boucher	There is a dam across Carp River, situated about three miles from its mouth, which is not provided with fish-passes; mill-owner's name is T. J. Owens, township Fitzroy.
John Grant	Yes; except where Government slide dams exist.
J. S. Richardson	There are no fish-ways or dams in my district.
Geo. R. Steele	There are no fish-ways in this district. Notices have been served on the Parry Sound Lumber Co. and the Parry Sound River Improvement Co., respectively, to construct fish-ways in certain dams on the Seguin River, and upon Messrs. S. & J. Armstrong, of McKellar, to construct a fish-way in their dam at the outlet of Owl Lake.
J. G. Rumsey	No; none in use. Have instructions to have a fish-way put in at Burk's Falls, on the Maganatewan River, so soon as water permits.
H. W. Gill	None.
Henry Castle	None.
L. S. Sanders	All streams in my district are on the level, not requiring fish-ways.
A. Hughson	The dams are all visited by fish and are provided with fish-ways. There are no fish-ways on the Humber River, nor on the Nottawa River. All the dams would require fish-passes.

QUESTION No. 3—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
N. Simmons	All the dams are provided with passes but two; one at Miller's & Co., and the other is at Chisholm's Rapids. If these two were built the whole river from Trenton up would be free for the ascent of fish.
G. W. Fitzgerald	There is no fish-way in any dam in Peterboro' district. There are five Government dams that should have fish-ways in, namely: Young's, Burleigh, Buckhorn, Lovesick and Bobcaygeon; the last named should be put in at once; one at Omemee, the mill-owner's name is T. Stephenson.
David Breeze	No, none in any of the dams; there are eight dams between Rice Lake and Clear Lake on the Otonabee River. I will number them and give the owners, commencing at the lower one: No. 1 is a Government dam, called Loch's dam; Nos. 2, 3 and 4 are owned by the Dixon Co.; No. 5 is owned jointly by the Alburn Woollen Co. and Mr. George Hyland; No. 6 is owned by J. M. Irwin; No. 7 is controlled by the Department of Railways and Canals, and holds back the waters of Katchewanooka Lake; No. 8 is also under same control, and holds back the waters of Clear and Stony Lakes. Would strongly recommend fish-passes to be put in these dams.
Wm. Gainsforth	The dams on these lakes should be let down before October to the usual water mark, as when the water is kept up the fish spawn too high, and when the water is let off the spawn is left dry and destroyed.
R. A. Gilbert	There are no dams or fish-ways in my district. I would recommend that a fish-way be constructed between upper and lower Trout Lakes, township of Palmerston.
Geo. Lake	No; there are no fish-passes in my district; there should be one in the Government dam at the part of Bob's Lake in Bedford, also one in Ezra Thompson's dam at Fish Creek in Bedford, also one in the dam of Wm. Estice at Parham in Hinchinbrook.
S. Boddy	No passes according to law; no fish-way between upper and lower Beverly Lake. The department has been consulted about the fish-passes. Mill-owner, Mawford Denault, Delta P.O.
Wm. Hicks	There is no fish-way at the outlet of Charleston Lake where there ought to be one, as there has been a deal of contention about it, some practical man should examine it and decide the matter.
Geo. Jeacle	At the foot of Wolf Lake, where the fish-pass was; mill burnt down, and nothing but Government dam there now.
John Murphy	Only one has not, viz., Mr. Allan's mill on Grant's Creek; it is better to have none here, as the water becomes low after freshet, fish would be lost in drowned lands.

QUESTION No. 3—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Eph. Deacon	No fish-ways on the streams here; do not believe them necessary.
A. Wilson	There are two dams on the Mississippi River that have no fish-ways—one at Galetta, owned by Geo. C. Whyte; the other at Pakenham, owned by C. B. McAllister. Difficult to provide fish-ways.
R. O. Campbell	The dams are not provided with fish-ways according to law: 1st. The Government dams on the Rideau are not provided. 2nd. The dams at Manotick and Burritt's Rapids are not so provided, neither are the dams on south branch of Rideau, four in number, viz., two at Kemptville, one owned by Keating & Barns, and one about a mile above owned by Kenedy, one at Oxford Mills owned by McDonald & Co.
Geo. Russell	Fishing on Madawaska has so far been kept all right.
M. L. Russell	No. Casselford, McLaughlin Bros.; Renfrew, M. L. Russell; Renfrew, John Moran; Douglas, E. G. Malloch; South Shute, Mrs. Bonfield; Eganville, Mrs. Bonfield. There are no fish-passes in the district.
H. Gallagher	Any dams here have fish-ways open all times.
Geo. Douglas	Yes; all dams are provided with fish-ways in this county. Fish ascend to spawn.

QUESTION No. 4.—*Do you know of any particular river which the fish ascend and where they have been destroyed in consequence of contraventions of the Fishery Laws, and can you suggest any amendment to the laws or recommend any administrative measure in relation thereto?*

QUEBEC.

Alf. Blais	No.
J. F. Picotin	The appointment of a special guardian at Arthabaskaville is suggested, in order to visit the fish market during the close season.
J. Laberge	Formerly that portion of the Châteauguay River above the Nuns' Dam was teeming with all kinds of fish, but sawdust and mill rubbish have considerably injured them.
J. Kelly	Recommends that, in all the rivers in this division, when fish come in to spawn, that rod or line fishing be disallowed until after the 15th June, because they kill and destroy bass by catching and bagging them.
J. O. Dion	Municipalities keeping roads forming basins or ponds should have openings to allow the fish and fry to escape when the water gets low.
J. B. Chevalier	No.

QUESTION No. 4—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
P. E. Luke	No personal knowledge of any.
P. W. Nagle	No.
A. L. Darche	No.
J. B. McDonald	Considerable damage was done in the Arnold and Victoria rivers by lumbering companies when blasting rock with dynamite, at a time when the fish were spawning. There is nothing in the law to prevent this.
V. Veilleux	No.
D. Shooner	No.
G. Boisvert	No.
S. A. Grant	The St. Maurice River is the only one fish ascend for spawning ; none are destroyed.
J. Charbonneau	Above Farnham the inhabitants, who are in the habit of spearing, seining and shooting the fish, are causing the decrease of fish in the river.
John Morris	Do not know of any.
A. Robert	No.
J. Lauzon	No.
J. Filiatrault	No.
R. W. Jones	In the North River fish have become very scarce. Some of the dams have a fall of about 15 to 20 feet.
R. Joynt	None.
Jos. Marion	In nearly all streams named in Answer No. 1, fish ascend to the foot of the rapids to spawn, and there it is alleged illegalities are committed. Overseer should be authorized to appoint local guardians on the spot.
J. T. Coghlan	In Calumet Creek, a great quantity of carp are destroyed yearly, and also a small percentage of pike, pickerel and bass.
	ONTARIO.
Thos. Keefer	Current River and Vicar's Creek have been injured by illegal fishing. Netting without license is reported in all rivers. The use of a tug with patrol service is the best way he can suggest to check the evil.
Isaac Turner	Whitefish River.—The present laws are sufficient if properly enforced.
Robert Boyter	The streams before mentioned should be provided with passes and mill rubbish kept from them.
F. Prout	Do not know of any.
R. H. Murray	None.
H. McFayden	None.
J. C. Pollock	No.
H. W. Ball	Reports of netting coarse fish without license have reached him, but he could never obtain evidence to convict. Recommend that overseers should have authority to hire temporary guardians in cases of emergency without first obtaining permission from Department.

QUESTION No. 4—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
H. B. Quarry	Bass have been destroyed in Aux Sables River. A guardian should visit it during close season for bass.
C. W. Raymond	No.
P. McCarron	Parties complained of injury done to fish by oil refiners in Petrolia, allowing refuse from the refineries to run into the river at that point, claiming that the refuse is injurious to fish life.
T. McQueen	Pickerel, pike and mullet ascend the Thames River in large quantities from 15th April to 15th May for the purpose of depositing their spawn generally where the waters of the Thames are shallow and clear; supposed to be at or near Cashmere, in the County of Bothwell.
P. McCann	None to my knowledge. I think the existing laws, if carried out, are sufficient.
Jos. Boismier	No river that I am aware of, where fish are destroyed.
Wm. Prosser	None.
David Girardin	I don't know of any.
John McMichael	No.
David Sharp	I believe there has been fish taken at Big Creek, but not to any great extent.
C. W. Evans	No. I have no suggestion to make in this respect.
W. P. Croome	I do not know of any.
Fred. Kerr	No.
Wm. Sargent	No.
Wm. Helliwell	I would recommend a close season be established for suckers and pike in the month of April in all streams.
Chas. Gilchrist	The Otonabee River has been completely ruined by the mill-owners at Peterboro' allowing sawdust and mill rubbish to drift into it for a great number of years. The spawning beds all through the drowned lands where the fish deposited their eggs are covered with sawdust. Fishing some years ago was good, but now it is very poor. The mill-owners do not now allow but a very little sawdust into the river.
W. P. Clarke	I do not know of any.
Jos. Redmond	Do not know of any.
A. D. Sills	No.
R. R. Finkle	None in my district,
Peter Kiel	There is no river but the St. Lawrence in this part of the country, and the fish inhabiting it, are not destroyed by illegal fishing.
Thos. Merritt	None.
N. Acton	I do not know of any.
Henry Hunt	None.
T. McGarrity	No, I do not know of any.
P. St. Pierre	No.
O. Miron	No.
W. W. Boucher	No.

QUESTION No. 4—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
John Grant	I am not aware of any.
J. S. Richardson	The large district between Spanish River and French River has numerous streams and small lakes from 100 to 150 miles back north from Georgian Bay which flow therein, and these waters are the breeding grounds supplying the said Bay with a great quantity of fish, which find their way up these waters to spawn. The lumbermen have a great many of these lakes and streams dammed in order to float their logs conveniently in the spring. Wherever a permanent dam is made they should be compelled to put in a fish-way, or the supply of fish in the Georgian Bay will soon diminish. I think if a suitable patrol was appointed to keep these streams open and look after the mills that are springing up in that unorganized district it would be a great benefit to the fishing interests.
Geo. R. Steele	Yes. At the outlet of the Seguin River, at the outlet of Mill Lake, and at the outlet of Manitawaba Lake, through want of proper fish-ways. Would respectfully recommend that the law as regards the construction of fish-ways be strictly enforced.
J. G. Rumsey	No.
H. W. Gill	There is a stream at the head of Three-Mile Lake, where fish ascend to spawn, which in the past has been visited by parties who have caught these fish in large quantities. Last spring I paid particular attention to this stream, and was enabled with some help to prevent this nefarious work being carried on, as this is one of the most important seasons of the year. I would suggest that a special guardian be employed at this point for one month (from 15th April to 15th May) in each year.
Henry Castle	No.
L. S. Sanders	No.
A. Hughson	The dams having no fish-passes, no fish can ascend, though large numbers attempt to get up the streams. Clubs for the purpose of protecting different lakes and ponds complain that when the fish descend they cannot get back for want of fish-ways. Said clubs are purchasing speckled-trout fry for these different waters.
N. Simmons	I do not think that there is any river, creek or inlet in my division where the fish have been destroyed.
G. W. Fitzgerald	Pigeon Creek. By appointing a guardian.
David Breeze	Would recommend an occasional patrol of the Indian River. I have been informed that there was a large amount of fish speared on that river last season.
Wm. Gainsforth	No.

QUESTION No. 4—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
R. A. Gilbert	I do not. The last Order in Council respecting the close season for salmon-trout and whitefish, enlarged from 15th October to 30th November, I hope will be retained. I strongly condemn the use of night-lines for catching trout.
Geo. Lake	None in my division that I am aware of.
S. Boddy	No.
Wm. Hicks	None.
Geo. Jeacle	No. Only at Westport's lower mill. Sucker run so soon as ice breaks up. Very few go through fish-slide; remain in current; and many caught by residents with dip-nets for home use, fresh.
John Murphy	No.
Eph. Deacon	Am not aware of any.
A. Wilson	I know no river where fish are destroyed contrary to law. Nothing to suggest.
R. O. Campbell	I do not know of any such rivers.
Geo. Russell	None.
M. L. Russell	In our waters, fish formerly ascended from Ottawa River, but since dams were built they have not been able to do so, as none of them are provided with passes.
H. Gallagher	I do not know anything outside of my district.
Geo. Douglas	I do not know any place where fish are destroyed except at Olmstead's Lakes.

QUESTION No. 5.—*Are you aware of any important district where a more regular inspection is required in order to prevent contraventions of the Fishery Laws which now occur? State the results of such contraventions as regards the fisheries in general.*

QUEBEC.

Alf. Blais	All lakes should be visited sharply at the forming of the ice, and the law should be strictly enforced. The lakes of his district are: Angers, Pitre, Otter Brook, Causapscal and Little Matane.
J. F. Picotin	In my opinion the following fishery districts, viz., Three Rivers, Richelieu, Yamaska, Arthabaska and Drummond should be on the same footing, the fishery overseers should meet and adopt a uniform rule.
J. Laberge	After efficient fish-passes are built where prescribed he suggests the employment of temporary guardians at suitable localities.
J. Kelly	I believe the present laws are satisfactory.
J. O. Dion	Nil.
J. B. Chevalier	It would require a more regular inspection in my district, on account of the American citizens being so close to the boundary and South River, in which fishing is prohibited; parties fishing in this river and other forbidden places should be prosecuted.
P. E. Luke	I am not aware of any.

QUESTION No. 5—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
P. W. Nagle	No.
J. Shurtleff	Yes; a guardian should be appointed at the inlet and outlet of Massawippi Lake. Being frequently informed of illegal fishing being carried on there, he made several trips to the lake and destroyed nets and night lines.
A. L. Darche	None, except as regards sawdust.
J. B. McDonald	None.
V. Veilleux	The lakes in St. Victor de Tring, where fry has been deposited.
D. Shooner	Yes, from the foot of Lake St. Peter to Three Rivers. Seine fishing should be prohibited.
G. Boisvert	No.
S. A. Grant	Not at present.
J. Charbonneau	Only the district mentioned in Answer No. 4.
John Morris	None at present.
A. Robert	No.
J. Lauzon	No.
J. Filiatrault	No.
R. Jones	No.
Robt. Joynt	None.
Jos. Marion	Numerous lakes in the county of Ottawa are not guarded, and no doubt some fishing is carried on during close season.
J. T. Coghlan	Nil.
	ONTARIO.
Thos. Keefer	The whole lake requires watching; illegal fishing may be carried on at any time anywhere a chance occurs. Net fishing without license creates dissatisfaction among the licensees, and incites them to follow the bad example. Fishing grounds are also polluted by fish offal thrown in secretly.
Isaac Turner	From Sagamok to Whitefish River. Trap-nets were used, and close season has not been observed.
Robt. Boyter	Yes.
F. Prout	Algoma Mills and Spanish River.
R. H. Murray	No.
H. McFayden	Not aware of any.
J. C. Pollock	No.
H. W. Ball	Fishery officers should be compelled to devote their whole time to inspection during the fishing season.
H. B. Quarry	Aux Sables River should be more closely attended to during close season for bass.
C. W. Raymond	No.
P. McCarron	Don't know of any such district.
T. McQueen	I am not aware of any important district where a more regular inspection is required to prevent illegal fishing.
P. McCann	No.
Jos. Boismier	I am not aware of any district where a more regular inspection is required.
Wm. Prosser	No.

QUESTION No. 5—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
David Girardin	I don't know of any district where a more regular inspection is required.
Jno. McMichael	I am not aware of any.
David Sharp	None, except Long Point. I believe American fishermen frequent the south shore of Long Point and take fish illegally.
C. W. Evans	Yes; the close season for whitefish is not at all observed by some parties along Lake Erie shore in this county.
W. P. Croome	I am not aware of any district being especially noted for infringing upon the Fishery Act. The great trouble in this district is illegal angling during the close season.
Fred. Kerr	None, except along the shores of Lake Erie, between Port Maitland and Colchester, where there is a good deal of illegal fishing and illegal shipping of bass and pickerel during the close season for those fish, which contravention requires energetic officers to suppress.
Wm. Sargent	No.
Wm. Helliwell	No; as there is no prohibitory law at present existing to prevent the destruction of coarse fish.
Chas. Gilchrist	I am not aware of any such district.
W. P. Clarke	Not aware of any.
Jos. Redmond	Not aware of any.
A. D. Sills	None, except the various close seasons.
R. R. Finkle	No.
Peter Kiel	I am not aware that any portion of this district requires any more watchfulness or inspection, as the inhabitants render any assistance required in carrying out the law in its entirety.
Thos. Merritt	No.
N. Acton	Not aware of any.
Henry Hunt	None.
T. McGarity	No.
P. St. Pierre	No.
O. Miron	No.
W. W. Boucher	No.
John Grant	I think about Mattawa would require a regular inspection to prevent net fishing in summer without license, as some lakes in the vicinity are well stocked with speckled-trout.
Geo. R. Steele	Consider that special guardians are required during the close season at Manitawaba Dam and Staley's Creek. This would be during close season for pickerel and bass.
J. G. Rumsey	No; spearing is the only trouble, but does not now amount to much. I require no extra help.
H. W. Gill	In Skeleton Bay, Lake Rosseau, where the Skeleton River empties, a special guardian is needed.
Henry Castle	No.
L. S. Sanders	I am not aware of any district where regular inspection is required.

QUESTION No. 5—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
A. Hughson	In the township of Melancthon there ought to be a more strict observance of the fishery laws. This is a very important and one of the best speckled-trout resorts in Ontario. I have been there often, and find the laws ignored. It has no guardian to look after the fish and those who wish to fish out of season. This place might advantageously be added to my division. I would see to it.
N. Simmons	I think, on the whole, the fishery laws are being better observed every year, as the people are finding out that it is for their own benefit that these laws are carried out and enforced.
G. W. Fitzgerald	In the north part of East Peterboro' county, Katchamogobog Lake, Round Lake, head of Moir River. Netting and spearing in close season for salmon-trout.
David Breeze	Indian River, especially at the village of Wasaw and Quarrey and White Lakes.
Wm. Gainsforth	No.
R. A. Gilbert	None that I know of.
Geo. Lake	I don't know of any as the present overseers look after the interest of the fishery laws.
S. Boddy	No.
Geo. Jeacle	Yes ; the lower Rideau. A guardian is great benefit when salmon-trout is depositing spawn. Other parts of division laws are generally well observed.
John Murphy	The season for salmon-trout is a little late. It should begin about 8th October.
Eph. Deacon	Am not aware of any in this county.
A. Wilson	Mississippi and Carp Rivers not protected. I could look after them without additional expense. The only violations on above streams is spearing in spring.
R. O. Campbell	I am not aware of any such.
Geo. Russell	No.
M. L. Russell	No ; none that I know of.
H. Gallagher	Think this fully answers above as far as can from common reports.
G. Douglas	Yes, Olmstead Lakes, township of Ross, requires closer inspection.

QUESTION No. 6.—*How much fish is consumed in the neighbourhood of the fishing grounds by the inhabitants, and what quantities are sold in a fresh state ?*

QUEBEC.

Alf. Blais	About 1,000 lbs. of salmon-trout consumed in this district.
J. F. Picotin	The fish caught is all sold fresh for local consumption. Valued at about $600 or $800.
J. Laberge	Between $2,000 and $3,000 worth of fish are consumed in this division, and about $20,000 worth sold on the Montreal markets.

QUESTION No. 6—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
J. Kelly	About 1,000 lbs. used for home consumption, and 7,000 lbs. sent to Montreal markets; sold from 5 cts. to 10 cts. per lb.
J. O. Dion	With the exception of about 22,000 lbs. of eels sold very few fish were disposed of from this district.
J. B. Chevalier	Very little consumed in the neighbourhood; mostly all exported to United States, fresh.
P. E. Luke	A very small portion consumed in this district; they are shipped in a fresh state.
P. W. Nagle	Nearly all consumed in neighbourhood.
J. Shurtleff	Nearly all consumed in neighbourhood. None sold in a fresh state.
A. L. Darche	Nearly all consumed in neighbourhood. About 3,000 lbs. taken away fresh.
J. B. McDonald	About four tons consumed here; 1,500 lbs. sold fresh.
V. Veilleux	All consumed here.
D. Shooner	From 30,000 to 35,000 lbs. fresh.
G. Boisvert	All consumed here; quantity unknown.
S. A. Grant	About 6,000 lbs. consumed here, and about the same quantity sold.
Jos. Charbonneau	From 25,000 to 30,000 lbs. are consumed here per annum; none exported.
John Morris	About one-third consumed here and two-thirds sold.
A. Robert	Possibly about 6,000 lbs. of all sorts (salmon excepted) consumed here; none sold in a fresh state.
J. Lauzon	About 8,000 lbs. consumed here, and about 10,000 sold in a fresh state.
J. Filiatrault	About 6,000 lbs. consumed here, and about 4,000 lbs. sold.
R. Jones	Very little consumed here; mostly all shipped in a fresh state to Montreal and Ottawa markets.
R. Joynt	All consumed here; none sold.
Jos. Marion	Cannot say how much fish the inhabitants consume, but nearly the whole catch is disposed of fresh in local markets.
J. T. Coghlan	About three-quarters consumed here and one-quarter sold in a fresh state.
	ONTARIO.
Thos. Keefer	Home consumption estimated at 80,000 lbs. Nearly the whole catch is sold fresh. The poachers' catch is sometimes salted or smoked.
Isaac Turner	Very little marketed here. No fishing station established.
Robt. Boyter	Do not know.
F. Prout	Do not state the quantities.
R. H. Murray	Cannot answer this.
H. McFayden	About 40,000 lbs. of speckled-trout consumed for local consumption annually.
J. C. Pollock	Fish are all collected by American tugs before they ever land at all, so that the inhabitants can hardly get any fish at all.
H. W. Ball	About 200,000 lbs., all fresh fish.

QUESTION No. 6—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
H. B. Quarry	About 28,000 lbs. of fresh fish sold in local markets.
C. W Raymond	Of soft fish, about one-third of the catch.
P. McCarron	Only a small quantity consumed while fresh and none sold.
T. McQueen	There are 8,247 lbs. of fish consumed in the neighbourhood of fishing grounds. The quantities which are sold in a fresh state are 48,562 lbs. of pickerel, 3,402 lbs. of pike and 102,978 lbs. of coarse fish, which are packed in barrels and sold to purchasers from the United States.
P. McCann	About $2,500 worth of fish disposed of for home consumption only. All the fish caught here are used or sold in the neighbourhood.
Jos. Boismier	Fish consumed in the neighbourhood of the fishing grounds are about 9,000 lbs; the quantities sold in a fresh state are about 225,000 lbs.
Wm. Prosser	All sold fresh. The home consumption estimated at about one-tenth of the whole.
David Girardin	I suppose there would not be more than 1,000 lbs. of fish consumed in my district. As near as I can estimate, is 655,225.
Jno. McMichael	As near as I could ascertain the quantity in pounds used by the inhabitants was 320,004 lbs. and 4,178,674 lbs., all sold in a fresh state.
David Sharp	There are very few fish consumed in the immediate vicinity of the fishing grounds, and all caught are sent to market in a fresh state.
C. W. Evans	In my district no nets are allowed. Fishing is entirely for sport; cannot, therefore, say what quantity caught. None sold.
W. P. Croome	All fish caught in this district are caught by anglers, and by them consumed. None sold.
Fred. Kerr	Two-thirds of the fish caught is consumed in the neighbourhood of the various fisheries, especially sold in Toronto and Hamilton, mostly smoked and cured.
Wm. Sargent	$500 worth is consumed by the inhabitants in the neighbourhood; $5,000 worth are sold in a fresh state.
Wm. Helliwell	They are all consumed in the neighbourhood where they are caught, and in Toronto; some being peddled about the country villages.
Chas. Gilchrist	There are 10,700 lbs. salmon-trout, 45,000 lbs. ciscoes, 100,000 lbs. maskinongé and 50,000 lbs. bass.
W. P. Clarke	It is impossible to state the amount of fish consumed by the inhabitants; probably $5,000 worth, nearly all fresh.
Jos. Redmond	Probably one-sixteenth is consumed in the neighbourhood, but the great bulk is sold in a fresh state.
A. D. Sills	All.
R. R. Finkle	Consumption probably about 3,000 lbs. All fish caught are sold here in a fresh state to American buyers.

QUESTION No. 6—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Peter Kiel	The fish taken in this locality are generally coarse fish and very few are consumed by the inhabitants, but are sold to Americans in a fresh state.
Thos. Merritt	About 20 brls., or 6,000 lbs. of different kinds of fish are consumed by the inhabitants near the different fishing grounds in my division, and about 100 brls., or 30,000 lbs. are sold in a fresh state in the markets and to fish dealers annually.
N. Acton	As there is no netting allowed in this division the catch by sportsmen, by anglers, is not sold, but consumed here.
Henry Hunt	Not known.
T. McGarity	Nearly all caught is used by the inhabitants or is sent to Montreal.
P. St. Pierre	About $1,500, more or less.
O. Miron	No fishing ground in my district. None sold for exportation.
W. W. Boucher	Two-thirds consumed in the neighbourhood, one-third sold in a fresh state.
John Grant	Cannot say the quantity, nearly all consumed in the neighbourhood.
J. S. Richardson	Sturgeon Falls—2,000 lbs. sold in a fresh state, 3,000 lbs. consumed by the inhabitants. North Bay—2,500 lbs. sold in a fresh state, 2,500 lbs. consumed by the inhabitants. Callander—1,200 lbs. used by the inhabitants. South River—1,000 lbs. used by the inhabitants.
Geo. R. Steele	No fishing carried on in this district for the purpose of barter or sale. Cannot give an accurate estimate of the amount of fish used by inhabitants, in the different localities.
J. G. Rumsey	Estimated about 4,500 lbs. salmon-trout. " " 400 " speckled-trout. " " 450 " bass. " " 350 " pickerel.
H. W. Gill	Nearly all the fish caught is consumed locally.
Henry Castle	Fish are caught here only by angling, and it is impossible to approximate the quantity.
L. S. Sanders	I have no means of knowing what quantity of fish are consumed by the inhabitants around Lake Simcoe. I am not aware as to quantity sold, if any, as Lake Simcoe has been set apart for some six years for propagation purposes. We get all of our fresh fish from the Georgian Bay *viâ* Collingwood.
A. Hughson	Only speckled-trout are caught in my division, and they are consumed by the inhabitants. Many excursionists come here to fish and purchase a quantity of fish to take home. Some visitors remain part of the summer on these waters and destroy a good deal of our fishing.
N. Simmons	All the fish caught in my division is consumed by the inhabitants as there is only hook and line fishing allowed. Sometimes in winter there are a few shipped caught through the ice. One of the principal fishermen said the quantity sent away would not exceed 2,000 lbs., in the season.

QUESTION No. 6—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
G. W. Fitzgerald	There are large quantities consumed by the settler the rest is sold to towns and villages in th neighbourhood.
David Breeze	There is quite a few caught by sports and settler for their own use, say about 2,000 lbs. Dealer handle for home consumption from 45,000 t 50,000 lbs.
Wm. Gainsforth	About 1,000 lbs. used. None so'd.
R. A. Gilbert	9,650 lbs.; about 5,000 lbs. sold to shanties an villages.
Geo. Lake	I should judge about 2,000 lbs. None sold.
S. Boddy	About 4 tons bull-pouts, in fresh state.
Wm. Hicks	I do not know, there being no regular fishing bus ness done in this section of country.
Geo. Jeacle	I do not—but all are sold fresh.
John Murphy	The inhabitants catch a deal with hook and line there is a little netting in spite of all we can do I should judge 3,000 lbs. are caught with hook an line.
Eph. Deacon	All fish caught are consumed in neighbourhood none exported.
A. Wilson	Safe in saying 1,500 lbs. consumed by inhabitant 600 lbs. sold.
R. O. Campbell	Fishing grounds extend from one end of river t the other; most of fish caught consumed by in habitants; quantity about 6,000 lbs
Geo. Russell	10,700; 1,500.
M. L. Russell	All that are caught; only a few in the neighbourin villages.
H. Gallagher	I don't think there is much in my district excep what is caught for home use.
Geo. Douglas	Very little consumed in neighbourhood by inhab tants; none sold to my knowledge.

QUESTION No. 7.—*What quantities of salmon and other fish taken in your county a exported, with the quantities exported in a fresh state packed in ice or snow or hermetically-sealed cans, and to what markets sent respectively?*

QUEBEC.

Alf. Blais	About 8,000 lbs. of salmon exported fresh in ice.
J. F. Picotin	Fishermen are of opinion that salmon in this pla can only be procured by spearing, but this is pr hibited; no other kinds of fish are exported.
J. Laberge	Montreal is the chief market for this division; a fish exported direct from this district.
J. Kelly	None.
J. O. Dion	There are no canneries; no fish exported.
J. B. Chevalier	No salmon in my district. About 700 or 800 br fresh fish are sent to United States packed in ic There are no canneries.
P. E. Luke	About nine-tenths of the quantity caught are e ported in a fresh state packed in ice to Ne York market.

QUESTION No. 7—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
P. W. Nagle	None exported.
J. Shurtleff	None exported.
A. L. Darche	None.
J. B. McDonald	None.
V. Veilleux	None.
D. Shooner	No salmon. 5,000 lbs. of fish packed in ice sent to United States market, 30,000 lbs. sent to Montreal, Quebec and Three Rivers.
G. Boisvert	None.
S. A. Grant	Not aware of any exported.
Jos. Charbonneau	Many families pickle a few barrels for their own use.
Jno. Morris	None.
A. Robert	No salmon.
J. Filiatrault	Trout is sold in a frozen state.
R. Jones	None.
R. Joynt	None.
Jos. Marion	Has no knowledge of any fish having been exported from his division.
J. T. Coghlan	No salmon in waters under his control.
	ONTARIO.
Thos. Keefer	The largest quantity of the yield is exported from Port Arthur and Sault Ste. Marie to United States markets in fresh state.
J. Turner	About 5 tons in ice.
Robt. Boyter	Buffalo is the principal market; fish are shipped there packed in ice.
F. Prout	Not given.
R. H. Murray	None.
H. McFayden	About 20,000 lbs. of trout exported to United States, packed in ice, every year.
J. C. Pollock	All, except a few herrings.
H. W. Ball	About 800,000 lbs. of trout, whitefish, sturgeon and pickerel, mostly all shipped to the Buffalo Fish Co., fresh in ice.
H. B. Quarry	About 93,000 lbs. of pickerel and sturgeon were exported fresh to Buffalo, Detroit and Port Huron.
C. W. Raymond	None.
P. McCarron	None exported.
T. McQueen	None taken, and consequently none packed in ice or snow.
P. McCann	None.
Jos. Boismier	All fish caught in this district are shipped fresh to the American market; quantities shipped are about 200,000 lbs.
Wm. Prosser	All fish exported fresh.
Jno. McMichael	None.
David Sharp	The larger portion of the fish caught in this county is exported to the United States in a fresh state packed in ice; principally consigned to Buffalo, N.Y.
C. W. Evans	None from this district; fishermen along Lake Erie in this county ship large quantities of herring and other fish to Buffalo and Canadian towns.

QUESTION No. 7—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
W. P. Croome	Not any.
Fred Kerr	One-third of the fish caught is exported to Buffalo in a fresh state packed in ice.
Wm. Sargent	The principal export is of ciscoes, fresh and cured, none packed in ice or snow and none canned. Markets, Toronto and Montreal, east, and region of London West.
Wm. Helliwell	None.
Chas. Gilchrist	There are 150,000 lbs. of pike and bull-heads packed in ice and shipped to the United States.
W. P. Clarke	Whitefish about 80,000 lbs.; bass about 2,500 lbs; pickerel, 26,500 lbs.; pike about 23,000 lbs.; eels, 3,550 lbs.; bull-heads, 125,000 lbs.; all packed in ice and exported to the United States; Cape Vincent and Buffalo are the chief markets.
Jos. Redmond	About one-half of the salmon-trout is exported in a fresh state,
J. D. Sills	No dried or pickled fish.
R. R. Finkle	Fish caught last season and packed in ice and shipped to American market as follows:—Salmon-trout, 6,000 lbs.; whitefish, 125,000 lbs.; bass, 6,500 lbs.; pickerel, 30,000 lbs., and about 6,000 herring; more packed in cans.
Peter Kiel	The principal fish taken are bull-heads, catfish and eels, which are sold fresh to the Americans.
Thos. Merritt	None.
N. Acton	The majority of fish is taken by American sportsmen, fishing in our waters all day and returning to their side at night.
Henry Hunt	Not known.
T. McGarity	Nil.
P. St. Pierre	None.
O. Miron	None.
W. W. Boucher	None.
John Grant	None exported that I am aware of.
J. S. Richardson	About 166,500 lbs. shipped in ice until the lake freezes, and then shipped frozen; shipped chiefly to Montreal, Brockville, Kingston and Toronto.
Geo. R. Steele	No fish exported from this division.
J. G. Rumsey	None.
H. W. Gill	None of any account; a small number may occasionally have been sent as a gift.
Henry Castle	None.
L. S. Sanders	None that I have heard of.
A. Hughson	There is no salmon-trout in any of the rivers in my division except the River Credit, and none are exported.
N. Simmons	None exported with the exception of that answered in question 6, and the fish caught in winter are maskinongé, pickerel and pike, principally the latter.
G. W. Fitzgerald	None
David Breeze	None. All consumed in this district.
Wm. Gainsforth	None.
R. A. Gilbert	None, owing to licenses not being issued.

QUESTION No. 7—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Geo. Lake	None exported.
S. Boddy	None.
Wm. Hicks	There is a quantity of bull-heads taken in this county, but I have no means of knowing to what extent. They are crossed over from Kingston to Cape Vincent on the other side.
Geo. Jeacle	No salmon-trout nor bass exported. American sportsmen may take a few when going home; coarse fish exported to United States in fresh state; some from here sent in sealed cans.
John Murphy	None.
Eph. Deacon	None.
A. Wilson	None.
R. O. Campbell	None exported in my district.
Geo. Russell	None.
M. L. Russell	None.
H. Gallagher	None that I know of.
Geo. Douglas	No fish exported to my knowledge in ice or sealed cans.

QUESTION No. 8.—*How much of dried or pickled fish, the product of your river fisheries, is consumed in Canada, and what quantities and kinds are exported to foreign countries, and to what countries?*

QUEBEC.

Alf. Blais	None.
J. F. Picotin	None.
J. Laberge	None exported direct from here.
J. Kelly	None packed here, or exported to foreign countries.
J. O. Dion	The fish are generally sold fresh. Very few can catch enough to pickle for their own use.
J. B. Chevalier	None.
P. E. Luke	No dried or salted fish, all disposed fresh.
P. W. Nagle	None exported to foreign countries.
J. Shurtleff	None.
A. L. Darche	None.
J. B. McDonald	None.
V. Veilleux	None.
D. Shooner	3,000 lbs. smoked eels to Montreal, and 4,000 lbs. pickled sent to Montreal and Quebec.
J. Boisvert	None.
S. A. Grant	None.
J. Charbonneau	Nil.
Jno. Morris	Eels are the only kind salted for use in the locality.
A. Robert	None.
Jos. Lauzon	None.
J. Filiatrault	None.
R. Jones	Very little. None exported.
R. Joynt	No river fisheries in my district.
Jos. Marion	All fish caught in his division was sold fresh in Canada.
J. T. Coghlan	All consumed in Canada.

QUESTION No. 8—*Continued.*

ONTARIO.

FISHERY OFFICERS.	ANSWERS.
Thos. Keefer	It is not stated how the Canadian buyers of fish disposed of them, but nearly all salted salmon-trout and whitefish (about 1,800 barrels) are exported to American markets.
Isaac Turner	No record.
Robt. Boyter	None.
F. Prout	Cannot answer this question now.
R. H. Murray	None.
H. McFayden	There is no pickled fish in his district.
J. C. Pollock	None.
H. W. Ball	All fish disposed of in fresh state.
H. B. Quarry	None.
C. W. Raymond	None.
P. McCarron	None.
S. McQueen	None dried or pickled in my division, and consequently none exported to foreign countries.
P. McCann	None.
Jos. Boismier	No dried or pickled fish here cured.
Wm. Prosser	Only one establishment in my division where smoked fish is cured; it does not do more than one-twentieth of the product.
Jno. McMichael	None.
David Sharp	None caught in rivers.
C. W. Evans	No such industry carried on here.
W. P. Croome	Not any.
Fred Kerr	None.
Wm. Sargent	No dried or pickled fish.
Wm. Helliwell	All. None.
Chas. Gilchrist	No dried or pickled fish in my division.
W. P. Clarke	There are about 80 brls. of whitefish and 560 brls of herring, product of my district, consumed in Canada; no pickled fish exported from this district.
Jos. Redmond	None.
A. D. Sills	No dried or pickled fish.
R. R. Finkle	None.
Peter Kiel	There are no fish dried, and but few pickled in this district; the local markets are supplied from the Gulf of St. Lawrence.
Thos. Merritt	None.
N. Acton	None, as there is no netting.
Henry Hunt	Not known.
T. McGarity	Nil.
P. St. Pierre	None.
O. Miron	None.
W. W. Boucher	All are consumed in Canada.
John Grant	It is all consumed in Canada; none exported to foreign countries.
Geo. R. Steele	None, only what is used by settlers in the district.
J. G. Rumsey	None.
H. W. Gill	Only consumed locally.
Henry Castle	None.
L. S. Sanders	None.
A. Hughson	None.

QUESTION No. 8—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
N. Simmons	I don't think that any are dried, and none are exported, as all are used as caught, fresh.
G. W. Fitzgerald	There is none exported.
David Breeze	None.
Wm. Gainsforth	None.
R. A. Gilbert	None.
Geo. Lake	None.
S. Boddy	Do not know.
Wm. Hicks	Do not know.
Geo. Jeacle	I do not know; chiefly bull-heads and eels exported to United States.
John Murphy	None pickled unless for home consumption.
Eph. Deacon	None.
A. Wilson	I know none dried, but inhabitants occasionally salt catfish and suckers when caught in large quantities for their own use.
R. O. Campbell	No fish dried or pickled, and none exported.
Geo. Russell	None.
M. L. Russell	Perhaps twenty barrels by residents. None.
H. Gallagher	Does not apply here.
Geo. Douglas	None consumed or exported to other countries.

QUESTION No. 9.—*State the prices of the different kinds and qualities of fish at or near the fishing grounds, when prepared for exportation and when delivered in the market respectively.*

QUEBEC.

Alf. Blais	Frozen trout, 10 cts. per lb., fresh at 8 cts.
J. F. Picotin	Pickerel is sold on our home markets for 7 or 8 cts. per lb.; coarse fish, 3 to 5 cts. per lb.
J. Laberge	Fish is not cured in his district, but mostly disposed of fresh in strings of fish on the Montreal markets.
J. Kelly	Bass, maskinongé and pickerel are generally sold at 10 cts. per lb., soft fish at 5 cts. per lb.; all shipped to Montreal markets once a week.
J. O. Dion	Nil.
J. B. Chevalier	Barbotte, $14 per brl.; pickerel and bass, from 8 to 10 cts. per lb.; other fish, $7 per brl. Eels are sold for $12 per 100 where exported.
P. E. Luke	Pickerel, 8 cts. per lb.; shad, 10 cts. per lb.; mixed fish, $6 per brl., delivered to railway station packed in barrels.
P. W. Nagle	About 10 cts. per lb.; none prepared for exportation.
J. Shurtleff	None prepared for exportation.
A. L. Darche	Offered for sale at 10 cts. per lb.; none exported.
J. B. McDonald	10 cts. per lb.; none exported.

QUESTION No. 9—QUEBEC—*Continued.*

FISHERY OFFICERS.	ANSWERS.
D. Shooner	Sturgeon, 7 cts.; bass, doré and eels, 8 to 10 cts.; maskinongé, 12 to 15 cts. Sold in United States markets from 7 to 10 cts.
G. Boisvert	None.
S. A. Grant	Pickerel and pike, 5 cts. and 3 cts.; maskinongé, 5 cts.; eels, 3 cts.; barbue, 4 cts.; catfish, 40 cts. per bush.
J. Charbonneau	Bass, pike, maskinongé and sturgeon sell for 10 cts. per lb.; soft fish from 6 to 8 cts.
Jno. Morris	None exported.
A. Robert	None sold or exported.
J. Lauzon	Prices vary from 6 to 8 cts. per lb. None exported.
J. Filiatrault	Trout sell from 8 to 10 cts. per lb., according to size.
R. Jones	Prices vary from 6 to 12 cts. per lb.
R. Joynt	None.
Jos. Marion	Bass, pickerel, pike, maskinongé, eels are sold at 5 cts. per lb.; gray trout, 7 cts. per lb.; speckled, 10 cts. per lb.
J. T. Coghlan	Prices of fish vary from 5 to 8 cts. per lb.

ONTARIO.

Thos. Keefer	While the fishermen on the United States side get 4 cts. per lb. from the buyers, those on the Canadian side get under 3 cts. for trout, whitefish and pickerel, and 1½ cts. for sturgeon, as the freighting of tugs and duty comes off the price. Frozen fish in winter brings 3 cts. per lb., and is disposed of on Canadian markets. For salt fish the buyers furnish barrels, salt, &c., and pay 2 cts. per lb.
Isaac Turner	Trout and whitefish, $4.50 per 100 lbs.; doré (pickerel), $5 per 100 lbs.; bass, $3.50 per 100 lbs.
Robt. Boyter	4 cts. per lb.
F. Prout	Salmon-trout sell at fishing grounds for 3 cts. per lb.; whitefish, 4½ cts., and pickerel 4 cts. per lb.
R. H. Murray	Trout, per package, $4; whitefish, $4; herring, $2.50.
H. McFayden	Speckled-trout is sold as high as 25 cts. per lb.
J. C. Pollock	Sturgeon, 5 cts. per lb.; pickerel and whitefish, 3 cts., and mixed fish, 2 cts. per lb.
H. W. Ball	At the fishing grounds, whitefish and trout, 3¾ cts. per lb.; pickerel, 3 cts.; herring, 2 cts.; sturgeon, $1 each, and coarse fish, 1 ct. per lb. When delivered at market 1 cent more is obtained per lb.
H. B. Quarry	When prepared for exportation, trout, whitefish, pickerel and sturgeon sell at an average of 3 cts. per lb.
C. W. Raymond	Pickerel, 6 cts.; bass, 6 cts.; pike, 3 cts.; soft fish, 1 ct. per lb.
P. McCarron	None sold.
T. McQueen	The prices paid at the various fishing grounds in my division by American purchasers are as follows:—Pickerel and pike, worth 6 cts. per lb., and coarse fish 1½ cts. per lb

QUESTION No. 9—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Jos. Boismier	Whitefish, 6 cts.; pickerel, 4 cts.; sturgeon, 5 cts. bass, 6 cts.; herring, 2 cts.; pike, 3 cts.; maskinongé, 5 cts., and coarse fish, 1½ cts. per lb.
Wm. Prosser	Whitefish, 5 to 5½ cts. per lb.; bass and pickerel, 4½ to 5 cts. per lb.; herring, ¾ to 1 ct. per lb.; sturgeon, $1.75 to $2 each; catfish, 2½ cts. per lb.; coarse fish, 1 ct. per lb.
David Girardin	At the fishing grounds:—Whitefish, 5 cts. per lb.; pickerel, 4 cts.; herring, 1 ct.; bass, 5 cts.; sturgeon, 3 cts.; catfish, 2 cts.; coarse fish, white bass and blue pickerel, at 1 ct. per lb. These fish delivered in the market sell at twice the above figures.
Jno. McMichael	At fishing grounds:—Whitefish, 4½ cts. per lb.; bass, 4 cts.; pickerel, 4½ cts.; herring, ¾ ct.; sturgeon, dressed, 4 cts.; catfish, 2½ cts.; perch and coarse fish, 1 ct. Very few other varieties are caught in these waters.
David Sharp	Whitefish, 5 cts. per lb.; sturgeon, 3 cts.; yellow pickerel, 5 cts.; blue pickerel, 2 to 3 cts.; pike, 3 to 4 cts.; herring, 1 to 1½ cts. The above prices with freight added, delivered.
C. W. Evans	None.
W. P. Croome	I never saw any fish the product of this district offered for sale.
Fred. Kerr	White and salmon-trout, 6 cts. per lb.; pickerel and sturgeon, 5 cts. per lb.; herring and ciscoes, $1.10 per 100, smoked; 3 cts. per lb. fresh; smoked sturgeon, 6 cts.; bass, 5 cts.; pike, 3 and 4 cts.
Wm. Sargent	Ciscoes average $1.25 per 100; no other fish shipped worth quoting.
Wm. Helliwell	Coarse fish are retailed at $2.50 per 100, and peddled at $2 per 100; none exported.
Chas. Gilchrist	Salmon-trout are sold at or near the fishing grounds at 7 cts. per lb.; ciscoes, 5 cts.; pike, 3½ cts.; bull-heads, 3½ cts.; maskinongé, 5 cts.; bass, 5 cts.; pike and bull-heads sent to the United States by the dealers in fish get 6 cts. per lb.
W. P. Clarke	Whitefish, 4 cts. per lb. at fishing ground; herring, ¾ ct.; bass, 4 to 6 cts.; pickerel, 4 to 6 cts.; pike, 3 cts.; eels, 3 cts.; bull-heads, 4 to 4½ cts., dressed; suckers, 1 ct.
Jas. Redmond	Whitefish, salmon-trout, bull-heads, bass and pike will average at the fishing grounds 4 cts. per lb. (6 cts. in the vessels); herring, bloats, &c., will average 3 cts. per lb. in the vessels.
A. D. Sills	Whitefish, pickerel, pike, 4½ cts. when prepared for exportation; mudcats, 3 cts.; eels, 3 cts.; bass, 4 cts. and when in the market, 10 or 12 cts. is obtained.
R. R. Finkle	Salmon, whitefish and bass, at grounds, 4 cts. per lb.; pickerel, 4 cts.; pike, 3 cts.; shipped at 1c. advance on these prices.

QUESTION No. 9—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Peter Kiel	The average price of coarse fish at the fishing grounds is 4 cts. per lb.; the bull-heads are dressed, but sold fresh; they are generally caught in cold weather and don't require salt or ice; marsh pike and eels are sold fresh for about the same price as bull-heads, if delivered on the American side they get about ½ cent more.
Thos. Merritt	Salmon-trout and whitefish, 6 to 7 cts. per lb.; bass, 7 cts.; herring, 8 cts.; pike, 4 cts.; eels, 5 cts.; all kinds of coarse fish, such as mudcats, perch, suckers, &c., realize prices varying from 2 to 4 cts.; sturgeon realize about 3 cts.
N. Acton	None exported nor prepared.
Henry Hunt	Not known.
T. McGarity	No market here.
P. St. Pierre	Between 4 and 5 cts. per lb.; part of it sold in the back concessions and part sent to Ottawa market.
O. Miron	None.
W. W. Boucher	At or near fishing grounds, pickerel are worth 7 cts. per lb.; bass, 7 to 9 cts.; maskinongé, 9 cts.; coarse fish, 5 to 6 cts.; when delivered in market are worth about 1 cent more per lb.
John Grant	I am not aware of any being prepared for exportation, therefore I cannot state price.
J. S. Richardson	The price varies according to weather; in cold weather, pike are worth 3 cts. per lb.; pickerel, maskinongé, black bass and whitefish, 4 cts.; herring and suckers, 1 ct.; the express charges about $1.60 per 100 to take them to market.
Geo. R. Steele	The general price of fresh fish per lb., as sold in the markets at Parry Sound by fishermen from Georgian Bay, is as follows:—Whitefish, 6 cts. per lb.; salmon-trout, 6 cts.; pickerel and bass, 5 cts. maskinongé, 6 cts.; coarse fish, 3 cts. per lb.
J. G. Rumsey	None prepared; all consumed on the spot.
H. W. Gill	There is no market price, no trade of any account being done.
L. S. Sanders	Salmon (which are caught by angling) average 10 cts per lb.; black bass, 5 cts.; herring, 25 cts. per doz. No export that I am aware of.
A. Hughson	Speckled-trout is sold at from 50 to 75 cts. per lb. and what can be got for them; none exported all are used by the inhabitants and vicinity.
N. Simmons	The few that are sold in the winter sell as follows:—Maskinongé and pickerel, 5 cts. per lb., and pike 4 cts. per lb.
G. W. Fitzgerald	They sell at 6 cts. per lb. just as they come out of the water, and 8 cts. per lb. when prepared.
David Breeze	Five to 6 cts. per lb.
R. A. Gilbert	Near fishing grounds, 10 cts. per lb. None exported.
Geo. Lake	None exported.
S. Boddy	Bull-pouts, 5 cts. per lb., delivered in January and February at Kingston.
Wm. Hicks	Do not know.

QUESTION No. 9—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
Geo. Jeacle	Four cents about average price, prepared and delivered, sold at Kingston market.
John Murphy	Salmon for home market, 10 cts. per lb.; whitefish, 8 cts. per lb.; bass, 10 cts. per lb.; bull-heads, 4 cents per lb., sent to New York.
Eph. Deacon	The above kinds of fish might bring from 6 to 8 cts. per lb., if offered for sale.
A. Wilson	None exported.
R. O. Campbell	None prepared for exportation; few sold are fresh, at about 5 cts. per lb.
Geo. Russell	None for exportation.
M. L. Russell	None prepared for exportation.
H. Gallagher	Same as No. 8, viz, none prepared for exportation.
Geo. Douglas	None sold here, to my knowledge.

QUESTION No. 10.—*Are the Local Officers in charge of the fisheries well instructed in their duties, and are they acquainted with the Fishery Laws and with the habits of fish?*

QUEBEC.

FISHERY OFFICERS.	ANSWERS.
Alf. Blais	Yes.
J. F. Picotin	None in my charge.
J. Laberge	Yes, he is well informed on the habits of fish and well acquainted with the fishery laws.
J. Kelly	Yes.
J. O. Dion	Yes; but public notices should contain more information such as size of mesh, license fees for each apparatus, &c.
J. B. Chevalier	No officer under his charge.
P. E. Luke	Nil.
P. N. Nagle	No local officers.
J. Shurtleff	Yes, as regards the fishery laws; but not fully acquainted with the habits of fish.
A. L. Darche	Yes.
J. B. McDonald	Yes.
V. Veilleux	No other officer in his charge.
D. Shooner	No other officer under his charge.
G. Boisvert	Yes.
S. A. Grant	None under his charge.
J. Charbonneau	No other officer under my charge.
Jno. Morris	Nil.
A. Robert	Yes.
J. Lauzon	Yes.
J. Filiatrault	Yes.
R. Jones	Yes.
R. Joynt	Yes.
Joseph Marion	All fishery officers in his district seem to understand the fishery regulations and the habits of fish.
J. T. Coghlan	Yes.

QUESTION No. 10—*Continued.*

ONTARIO.

FISHERY OFFICERS.	ANSWERS.
Thos. Keefer	He is alone, and states he is well acquainted with the fishery laws and habits of fish.
Isaac Turner	Yes.
Robt. Boyter	Well posted in lake fisheries, but not in stream fisheries.
F. Prout	Knows not the other officers.
R. H. Murray	Yes.
H. McFayden	Yes.
J. C. Pollock	He is well posted as to his duties.
H. W. Ball	Yes, he is well acquainted with the fishery laws and habits of fish.
H. B. Quarry	No other officers in his district.
C. W. Raymond	Yes.
P. McCarron	Yes.
T. McQueen	The local officers, contiguous to my division, and with whom I am acquainted, are well instructed in their duties, and are acquainted with the fishery laws and with the habits of fish.
P. McCann	Yes.
Jos. Boismier	Well informed.
David Girardin	The officers in my district are well instructed in their duties, also acquainted with laws.
David Sharp	I believe all concerned understand their duties and the laws governing the fisheries. As to the habits of fish, we believe there is much information yet to be found out.
W. P. Croome	I am the only fishery officer in this district, and I have endeavoured to keep posted in my duties, and to know the Fisheries Act, and study the habits of the fish frequenting this locality.
Geo. Price	Yes, I am well acquainted with the fishery laws and with the habits of fish.
Fred. Kerr	Some are, and others are not.
Wm. Sargent	They are.
Wm. Helliwell	I consider myself well posted in the fishery laws and the habits of fish.
Chas. Gilchrist	I cannot say; I never made inquiries to that effect.
W. P. Clarke	There are no local officers under my supervision.
Jos. Redmond	Yes.
A. D. Sills	None in division.
R. R. Finkle	Yes.
Peter Kiel	As far as I know the local officers are thoroughly acquainted with their respective duties, and have the confidence of the people in this vicinity.
Thos. Merritt	Yes.
N. Acton	Fairly well.
Henry Hunt	Instructed by the Fisheries Act only.
T. McGarrity	I am the sole officer between Morrisburg and Lancaster, about 40 miles, for the last eleven years, and I believe I have a fair knowledge of fishery matters.
P. St. Pierre	Yes.
O. Miron	Well posted in fishery laws and habits of fish.

QUESTION No. 10—ONTARIO—*Continued.*

FISHERY OFFICERS.	ANSWERS.
W. W. Boucher	Yes.
John Grant	Fairly well instructed; has a limited knowledge of the habits of fish.
J. S. Richardson	Yes.
Geo. R. Steele	There is no other local fishery officer in this division.
J. G. Rumsey	Yes. Well instructed. I am alone. Yes.
H. W. Gill	Yes. Yes. Moderately.
Henry Castle	Yes.
L. S. Sanders	I have no means of knowing of other fishery overseers, as to their acquaintance with the fishery laws.
A. Hughson	So far as I am informed, and from conversation with them, I judge they are well instructed as to the laws, but about the habits of fish they do not know very much.
N. Simmons	There is no one else in my division but myself, and I have endeavoured to find out the habits of fish and mode of spawning.
G. W. Fitzgerald	Some of the fishery officers have not got the Fisheries Laws. Some are not very well posted regarding the law or the close seasons. Better send some copies of the laws and close seasons to distribute.
David Breeze	Yes.
Wm. Gainsforth	Yes.
R. A. Gilbert	Yes.
Geo. Lake	Pretty generally.
S. Boddy	Yes.
Wm. Hicks	Yes, as far as I know.
Geo. Jeacle	Yes, very fairly acquainted.
John Murphy	Yes. Yes. Yes.
Eph. Deacon	As far as I am aware, they are.
A. Wilson	They are.
R. O. Campbell	They are.
A. L. Russell	Yes.
H. Gallagher	I can only speak for myself. Have not been well instructed regarding duties of office. Know very little of nature and habits of fish. Never did fish or interested in fishing before my appointment as overseer.
Geo. Douglas	Yes. Well instructed in duties of fishery laws, &c.

PART II

REPORT

ON

FISH-BREEDING OPERATIONS

IN THE

DOMINION OF CANADA

1892

INDEX

FISH-BREEDING REPORT.

SUPERINTENDENT'S REPORT ON FISH-BREEDING OPERATIONS, 1892.

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REPORT

OF

MR. SAMUEL WILMOT,

Superintendent of Fish Culture for the Dominion of Canada,

FOR THE YEAR 1892.

Hon. CHAS. H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

The following report is concisely given to show the extent of work performed at the several hatcheries in the several provinces of the Dominion during the year 1892; and appended hereto will also be found the particular reports of the several officers having charge of the individual hatcheries.

1.—MANITOBA HATCHERY.

In the report of 1891 it was mentioned that this province was the exceptional one in which fish-breeding was not carried on, but that arrangements were being made to build a hatchery at the town of Selkirk, on the Red River; this has been accomplished by the erection of a large and commodious building with the capacity of laying down some hundreds of millions of whitefish eggs. Considerable room is also given for the breeding of salmon-trout, and such other fish as may be found most desirable for adding fish wealth to the waters of Manitoba and the North-west Territories.

The Selkirk hatchery is situated within the limits of the town of Selkirk on the immediate bank of the Red River. It is a wooden structure of considerable dimensions being feet in length, by feet in width; the main or lower floor consists of a breeding house to be fitted up with automatic glass incubators for hatching whitefish, together with a series of troughs for holding the necessary hatching trays for breeding salmon trout and other species.

The motive power for driving the machinery for procuring the requisite supply of water from the Red River, consists of a steam boiler with patent duplex pump attached, of horse-power, capable of supplying gallons of water per minute through an underground iron conductor pipe direct from the deep channel of the river—the water being run into a large tank on the second floor of the building, from whence it is drawn off as required to supply the automatic incubators, and breeding troughs arranged on the floor below.

The building and all appliances connected therewith are in an advanced state towards completion at the present date, and will be in readiness to carry on the work of artificial fish-breeding on an extensive scale for the coming season of 1893.

2.—THE OTHER HATCHERIES, THEIR WORK AND POSITION.

All of the other hatcheries located at different points from the Pacific coast to the Atlantic are in a satisfactory condition, well stocked with fish eggs of various kinds, excepting the nursery at Sydney, C.B., where the usual effort to procure salmon ova the past autumn was temporarily suspended. These hatcheries contain a somewhat larger aggregate of eggs in them than the usual average of former years, and although two of the lower province nurseries did not secure eggs in their own localities, they were nevertheless supplied from the Ontario hatcheries at Newcastle and Sandwich.

The latest returns from each of these institutions represent them to be working in a satisfactory manner, and the eggs in them showing marked signs of embryonic development with healthful indications for bringing forth a large crop of fry for the approaching season's distribution.

3.—LOBSTER HATCHERY AT BAY VIEW.

This is the second year in which lobster hatching operations have been carried on. In 1891, this industry was first introduced into Canada by putting up the necessary building with the experimental appliances of hatching the lobster eggs in Wilmot's automatic glass incubators, by slightly changing them from the jar used in breeding whitefish. They proved to be well adapted for the work, but as the season for collecting lobster eggs was about over when the establishment was completed, only 7,000,000 of fry were produced. The present season of 1892, however, proves to be of a most satisfactory character in turning out about 70,000,000 of young lobsters. This result has thrown aside all doubts regarding the practicability of hatching the lobster eggs with as much or even greater certainty than the ova of other fish at the establishments where artificial culture has been carried on for years past. The adaptability of the automatic incubator for lobster hatching is, beyond all doubt, an assured success. It is only the work of establishing sufficient numbers of hatcheries that will prevent the further diminution of the lobster industry, which has been brought about from over-fishing, fishing in the breeding season and killing the small, immature lobster, by the improvident action of the lobster packers and fishermen.

4.—PRACTICAL RESULTS OF ARTIFICIAL FISH CULTURE.

It will be unnecessary to dwell upon this subject at this stage of the report, other than to draw attention to the letters and certificates which will be found appended hereto, taken from some of the reports of the officers in charge of individual fish hatcheries, and to refer to the *General Remarks on Fish Culture* as published on pages vi, vii, viii, ix, x, xi, xii, xiii and xiv of the Annual Report of the Department of Marine and Fisheries for the year ending 30th June, 1892, which remarks refer to the successes attending fish culture, not only in Canada, but also in the United States and Europe.

There will also be found in the annex to this report valuable matter relating to the protection and propagation of fish, comprised in the following paper, namely :—

1. "Extracts from proceedings at the International Fisheries Conference held at Detroit, U.S., in December last."
2. An article on the culture of fish, by Latouche Tupper.
3. The Salmon fisheries in Alaska, from *Forest and Stream.*
4. A paper read before the Royal Society of Canada, by Rev. Moses Harvey, LL.D., on the artificial propagation of food-fishes, &c.

TABULATED STATEMENTS.

The following tables will give detailed particulars of the work done at the several hatcheries during 1892, as follows :—

(1.) A general statement of the output of fry of all kinds bred at the several fish hatcheries of the Dominion during the year, showing the numbers of each kind and their species, making a grand total of 135,959,500.

(2.) A statement in tabulated form showing the number and species of young fish and semi-hatched eggs that were distributed from and received at each of the several hatcheries in Canada during the season of 1892.

(3.) A tabulated statement showing the gross numbers of young fish of all kinds which have been turned out of each hatchery into the waters of Canada, from the commencement of operations at each nursery up to the present time, making in the gross an exhibit of 1,047,489,200 of fry, comprising the higher orders of fish, and best adapted for the commercial and domestic wants of the country.

5.—GENERAL STATEMENT OF THE OUTPUT OF FRY OF ALL KINDS FROM THE SEVERAL HATCHERIES DURING 1892.

The total distribution of young fish in the various waters of Canada from the individual hatcheries in 1892 was 135,959,500, of the following described species :—

Atlantic salmon (*Salmo Salar*)	5,639,000
Pacific salmon (*Sockeye Oncorhynchus nerka*)	6,000,000
Salmon-trout, great lakes (*Naymacush*)	4,177,000
Speckled or brook trou (*Fontinalis*)	253,500
Whitefish, of the great lakes (*Corogoni*)	56,390,000
Lobster fry (*Homarus*)	63,500,000
Grand total, 1892	135,959,500

6.—A tabulated form in which is shown in separate columns the number, and name of each hatchery, the quantities of fry put out from each, the numbers of semi-hatched eggs sent from, and received at, the hatcheries, and the particular species of fry and eggs so distributed :—

SCHEDULE AS DESCRIBED.

Number.	Name of Hatchery.	Number of Fry put out.	Number of semi-hatched Eggs sent to other Hatcheries.	Number of semi-hatched Eggs received from other Hatcheries.	Description of Fish.
1	Fraser River, B.C.	6,000,000			Salmon, sockeye.
2	Sydney, N.S	690,000			do *salar*.
3	Bedford, N.S.	520,000		350,000	do do
	do	300,000		500,000	Salmon-trout.
	do	1,800,000		2,000,000	Whitefish, *coregoni*.
4	Dunk River, P.E.I.				Not in operation.
5	St. John River, N.B.	1,880,000		2,000,000	Whitefish, *coregoni*.
	do	208,000		500,000	Salmon-trout.
	do	290,000			do *salar*.
6	Miramichi, N.B	1,310,000	350,000	100,000	do do
7	Restigouche, N.B.	1,240,000	100,000		do do
8	Gaspé, P.Q.	965,000			do do
9	Tadoussac, P.Q.	624,000			do do
10	Magog, P.Q.	1,500,000		2,000,000	Whitefish, *coregoni*.
	do	900,000		1,000,000	Salmon trout.
11	Newcastle, Ont.	1,770,000	3,000,000		do
	do	2,800,000		3,000,000	Whitefish.
	do	253,500	100,000		Speckled trout.
12	Sandwich, Ont.	4,450,000	14,000,000		Whitefish.
13	Ottawa, Ont.	3,910,000		5,000,000	do
	do	999,000		1,000,000	Salmon-trout.
	do	4,909,000		100,000	Speckled trout.
14	Bay View, N.S.	63,500,000			Lobsters.
	Totals	135,959,500	17,550,000	17,550,000	

7.—GRAND TOTAL OF YOUNG FISH OF ALL KINDS PUT OUT OF THE SEVERAL CANADIAN FISH HATCHERIES FROM THE ORIGIN OF THE INDUSTRY UP TO THE PRESENT TIME, 1892.

The following schedule shows the gross output of fry of all kinds, from each hatchery in each province, the name of the hatchery, the province where located, the year in which they were each established, exhibiting a total number of fry of all species, amounting to 1,047,489,200 :—

STATEMENT showing the Places where, and the Years in which the several Fish Hatcheries have been erected; also the number of Fry distributed from each Establishment, annually, since they were built.

YEAR.	ONTARIO.			QUEBEC.				NEW BRUNSWICK.		NOVA SCOTIA.			PRINCE EDWARD ISLAND.	BRITISH COLUMBIA.	TOTALS.
	Newcastle.	Sandwich.	Ottawa.	Magog.	Tadoussac.	Gaspé.	Restigouche.	Miramichi.	St. John River.	Bedford.	Sydney.	Bay View Lobster Hatchery. *	Dunk River.	Fraser River	
	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.	Fry.
1868-73	1,070,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,070,000
1874...	350,000	.....	.....	.....	.....	.....	100,000	60,000	.....	.....	.....	.....	.....	.....	510,000
1875...	650,000	.....	.....	.....	60,000	110,000	600,000	150,000	.....	.....	.....	.....	.....	.....	1,570,000
1876...	700,000	8,000,000	.....	.....	150,000	50,000	300,000	60,000	.....	395,000	.....	.....	.....	.....	9,655,000
1877...	1,300,000	8,000,000	.....	.....	1,180,000	1,051,000	600,000	320,000	.....	1,000,000	.....	.....	.....	.....	13,451,000
1878...	2,605,000	20,000,000	.....	.....	707,000	650,000	1,015,000	665,000	.....	1,400,000	.....	.....	.....	.....	27,042,000
1879...	2,602,700	12,000,000	.....	.....	1,250,000	1,597,000	1,470,000	1,025,000	.....	1,740,000	.....	.....	.....	.....	21,684,700
1880...	1,923,000	13,500,000	.....	.....	1,155,000	730,000	1,500,000	805,000	170,600	730,000	.....	.....	500,000	.....	21,013,600
1881...	3,300,000	16,000,000	.....	200,000	334,000	500,000	740,000	770,000	50,000	680,000	.....	.....	375,000	.....	22,949,000
1882...	4,841,000	44,000,000	.....	975,000	660,000	530,000	1,400,000	640,000	588,000	850,000	315,000	.....	1,060,000	.....	55,799,000
1883...	6,053,000	72,000,000	.....	250,000	995,000	520,000	300,000	925,000	72,600	800,000	659,000	.....	1,210,000	.....	83,784,600
1884...	8,800,000	37,000,000	.....	100,000	985,000	859,000	940,000	795,000	811,000	1,000,000	853,000	.....	1,000,000	.....	53,143,000
1885...	5,700,000	68,000,000	.....	300,000	720,000	290,000	660,000	900,000	155,000	670,000	772,000	.....	1,100,000	1,800,000	81,067,000
1886...	6,451,000	57,000,000	.....	1,400,000	1,627,000	576,000	1,380,000	945,000	2,181,000	960,000	1,179,000	.....	400,000	2,625,000	76,724,000
1887...	5,130,000	56,500,000	.....	675,000	900,000	630,000	1,500,000	900,000	2,479,000	4,230,000	1,415,000	.....	500,000	4,414,000	79,273,000
1888...	8,076,000	56,000,000	.....	3,475,000	850,000	800,000	1,720,000	1,290,000	4,142,000	4,390,000	1,559,000	.....	.....	5,807,000	88,109,000
1889...	5,846,500	21,000,000	.....	2,800,000	1,600,000	450,000	1,280,000	850,000	3,570,000	3,850,000	2,034,500	.....	.....	4,419,000	68,700,000
1890...	7,736,000	52,000,000	5,733,000	2,875,000	1,700,000	806,000	2,396,000	1,022,000	3,492,000	3,860,000	1,953,000	.....	.....	6,640,000	90,213,000
1891...	7,807,500	75,000,000	7,043,000	3,050,000	1,300,000	1,000,000	1,750,000	1,503,000	3,165,000	2,550,000	1,000,000	7,000,000	.....	3,603,300	115,771,800
1892...	4,823,500	44,500,000	4,909,000	2,400,000	624,000	965,000	1,240,000	1,310,000	2,378,000	2,620,000	690,000	63,500,000	.....	6,000,000	135,959,500
Totals	85,765,000	660,500,000	17,685,000	18,500,000	16,742,000	12,114,000	20,890,000	14,935,000	23,245,200	31,725,000	12,429,500	70,500,000	6,145,000	35,308,300	1,047,489,200

The particular descriptions of fry above enumerated were as follows:—

Salmonidæ—Atlantic and Pacific salmon, salmon-trout of the great lakes, and speckled trout of the streams	238,003,300
do Whitefish *(Coregonus)* of the great lake region	507,770,000
Percidæ—Pickerel, or doré *(Lucioperca)*	231,215,900
Lobster fry *(Homarus Americanus)*	70,500,000
Grand totals of all kinds	1,047,489,200

NOTE.—In addition to the written 85,765,000 fry distributed from this parent establishment at Newcastle, there are annually transferred from this institution to the eastern province hatcheries large numbers of semi-hatched ova of various kinds.

In like manner the Sandwich nursery transfers annually large quantities of eyed eggs to other hatcheries, exclusive of the 660,500,000 of fry shown above.

*The hatchery at Bay View, N.S., is devoted wholly to lobster hatching.

The following papers will be found appended to this report, viz. :

1. Addendum showing results of fish culture.

2. Appendices containing reports of the officers in charge of the several hatcheries for 1892.

3. Annex comprising papers A, B, C and D, in which general information will be found relating to discussions had and papers read at conferences in Canada and the United States in respect to fish and fisheries.

Humbly submitted,

SAMUEL WILMOT,
General Superintendent Fish Culture for Canada.

1.—ADDENDUM.

Results of Artificial Fish Culture.

Letter from A. H. Gillmor, M.P., relating success from planting salmon fry in Magaguadavic River in New Brunswick.

House of Commons, 28th February, 1893.

My Dear Sir,—Some years ago the Government built a fish-way on the Magaguadavic River, and for some years we could not positively ascertain that any fish had gone through this fish-way. About five years ago some salmon fry were placed in that river. When we had about given up hopes of seeing any return for this outlay, behold, last spring the salmon came in considerable numbers, and we were informed by those who pretended to know, that the salmon that were caught—eight or ten—were about five years old. The community are delighted with the prospect of this becoming an excellent salmon river, and we want you to instruct Mr. Wilmot to see 500,000 young salmon planted in Lake Eutopia on that river.

Yours truly,
A. H. GILLMOR.

Hon. J. Costigan.

(Extracts from Restigouche Report.)

Robertsonville, 10th December, 1892.

Mr. Alexander Mowat,
Restigouche Hatchery.

Dear Sir,—In answer to your request desiring information regarding the stock of fish in the Upsalquitch River last season, I beg to say I was 40 miles up this river during the months of May and June, bear hunting along its banks, and saw a good showing of very large fish in the branches above the Forks in June. This is something unknown for this river; I have lived on it for the last 10 or 12 years and never knew salmon to go up it until July; I firmly believe this is the result of the fry planted from the Restigouche hatchery; there is no other way of accounting for it, as well as the great increase of fish in the river; and I would say to the Government and those engaged in fish culture to increase the good work began. The fish were also very plentiful in the river, below the Forks, in July and August. Also the young salmon parr are very numerous. This river will soon be as famous as the Restigouche for fly fishing.

I am, yours truly,
MARSELLES MARSHALL.

Robertsonville, 11th December, 1892.

Mr. Alexander Mowat,
Restigouche Hatchery.

Dear Sir,—In answer to your letter of the 5th inst., I may say I was with Mr. Marshall, bear hunting, on the Upsalquitch River in May and June, last season, and I can corroborate what he says about the salmon. I saw some very large fish about the Forks, which is 30 miles from its mouth; they looked like the Restigouche fish, and I certainly believe it is the result of planting the Restigouche fish in this river, as salmon were never known to run into it before the 1st of July, and then only small 10-

pound fish. Those I saw above the Forks would weigh 30 pounds. The main river below the Forks was full of fish in August; the salmon are getting more plentiful every year, and it must be the fry put in from the hatchery. I would therefore say, increase the number of fish beyond those planted in previous years. Fly fishing is good now, and water is getting more valuable every year.

Yours truly,

his
GEORGE × THOMAS.
mark

Witness, RAYMOND CULLEN.

(Extracts from Miramichi Report.)

REGARDING BENEFITS.

Very little of importance regarding the beneficial results of the work at this hatchery can here be included, except that which has been previously written. Opinions of the leading fish dealers, anglers and net fishermen could be obtained, but as they do not furnish any new ideas, and as their views have been included in my report for 1889, 1890 and 1891, it seems sufficient to say that all concur in the one opinion, that artificial breeding is a benefit of the greatest kind to the river upon which it is successfully carried on.

(Extract from Newcastle, Ont., Report.)

Fishery Overseer W. P. Clarke, of Belleville, Ont., forwards a letter from W. Black, fish dealer of that place, covering a communication from eighteen fishermen of the Bay of Quinté, testifying to the advantages of stocking their waters with fry, as evidenced by the increase both in size and numbers of whitefish frequenting these waters.

Mr. Black declares that the fish this last fall were very numerous and of large size, and attributes this largely to previous planting of young fish. He asks for some pickerel fry.

The overseer states he is confident the planting of fry has doubled the whitefish in the bay, that at the time when fry were first put in the fishing was nearly depleted, but that last fall whitefish were more plentiful than for twenty years before.

18th January, 1893.

BELLEVILLE, 14th January., 1893.

Mr. J. KENEFICK.

DEAR SIR,—I received your letter on the 12th instant, and I made it my business to see some of the fishermen in my district, and I asked them their opinion as to whether the putting whitefish fry into the bay, was a benefit or not. I asked them to express their opinion in writing; I enclose you their letter signed by eighteen fishermen. I will also enclose Mr. Black's (fish dealer) letter. If I had a few days so that I could see all the fishermen in this district, I am sure they would all say the fry which have been put in the Bay of Quinté by yourself and other Government officers has been the means of doubling the whitefish in the bay. In my opinion the bay fishing for whitefish was done when Mr. Wilmot commenced stocking it, and it has been on the improve ever since. I am satisfied there were more fish in the bay this fall than there has been before for twenty years. I think it would be a great benefit if there was some pickerel fry put in our waters as they are fish that will stay with us the year around and they are as good a price as any fish we catch, even the whitefish.

Hoping these few lines will meet with your approval.

I remain, yours truly,

W. P. CLARKE.

Belleville, Ont., 14th Jannuary, 1893.

Mr. John Kenefick,
Officer in charge of the Newcastle Hatchery.

Dear Sir,—I have been asked by the fishery officer here, Mr. Clarke, if the putting of fry in the bay, was of any benefit and I can say that I know it is of great benefit, for I have noticed that the last four years that whitefish have increased very fast and this fall they were very thick and the largest whitefish I ever saw in the bay. We got whitefish here last fall that weighed as high as nine pounds and would average from two and ahalf to three pounds right through.

Yours truly,
W. BLACK.

P.S.—I also think it would be a great benefit for pickerel fry to be put in the bay.

Belleville, Ont., 13th June, 1892.

John Kenefick,
Officer in charge of Newcastle Hatchery.

Dear Sir,—We have been asked by the fishery officer here, Mr. Clarke, if the put ting of fry in the bay was of any benefit; we, as fishermen, know that it is of great benefit to us for the fish have been increasing this last four years, and last fall they were very thick and large

We remain,
Yours respectfully,

Joseph Larue,	T. W. LaRue,
David Belnap,	Thomas Irwin,
Nicholas McDonald,	A. W. Weese,
Daniel Belnap,	J. Belnap,
W. McDonald,	Samuel Geddes,
Robert McDonald,	W. H. Brickman,
Geo. McDonald,	H. B. Brickman,
W. McDonald,	D. Yerow,
J. H. Vancott,	John Haslett.

(Extracts from the Sandwich Report.)

Petite Côte, Ont.

Dear Sir,—I give you my opinion concerning your fish hatchery. I must certainly say it is a great improvement, and that is what all the fishermen know for the last few years, whitefish is increasing and herring is decreasing.

Yours truly,
ROBERT ADAMSON.

Mr. Parker.

Petite Côte, Ont.

Dear Sir,—You asked me for my ideas of the hatchery. I will tell you, sir, that I think if it was not for your hatchery we would have no more whitefish in the river, for I have been fishing in this river for about twenty-five years. About fifteen years ago we used to catch herring from fifteen to twenty thousand a day with one net, but this last three or four years we hardly catch any; that shows if it were not for the fish hatchery it would be the same with whitefish.

I am, yours respectfully,
JACQUES PARÉ.

Mr. Parker.

PETITE CÔTE, ONT.

DEAR SIR,—I am asked what about the fish in the Detroit River. I am glad to say the whitefish are more plentiful the last two years than for some years before. But the herring are getting less; and I think the credit goes to the fish hatchery for the whitefish.

Yours truly,

Mr. PARKER. D. REOME.

RIVER CANARD, ONT.

DEAR SIR,—As I have seen a good deal in the papers about hatching whitefish; some claim that it would be as well to let the fish spawn in the pens, that they would hatch as well, but I think it all nonsense, for the reason that those pens are so dirty. I dare say that there is not one pen in the river but what there is from six to ten inches of mud in the bottom, so that the spawn would naturally bury itself in that dirt and rot of course. I think it is a good thing to have the fish hatchery, for I look at it in this way: You take the whitefish, although not very plentiful, but yet they have increased a little these last few years. There were more whitefish caught last fall than there has been for some five or six years, and my reason for believing that the hatcheries are good is this: You take for instance the herring, there were any amount of them about six or seven years ago; they are not bred in the hatcheries around this part and they are now run down to nothing, in fact we can't catch one hundred herring to a thousand whitefish now. I can remember about seven years ago, I was foreman for C. W. Gauthier, on Pier Station No. 1, and we caught about one hundred thousand herring in one day's fishing, and I am certain that there were not one hundred herring caught in any one day last fall; and I could mention different kinds of other fish that are not hatched artificially and they are decreasing in the same way, so that is why I say the hatcheries are keeping up our whitefish in the river.

I remain yours respectfully,

Mr. PARKER. REMI LAFRAMBOISE.

PETITE COTE, ONT.

DEAR SIR,—In regard to whether the fish hatchery is a beneficial thing or not in regard to raising whitefish, one must look back at the last few years since this hatchery has been established. Taking it eight years ago, and comparing it year after year, any person who has paid any attention to the amount of fish caught, will see that last year (1892) was far ahead of any of the preceding years. A few years ago herring in the Detroit River were so plentiful as to be almost a nuisance to the fishermen, now they have become a scarcity. Fishermen who, five years ago, would throw the herring away, now can't get enough to supply the wants of the smallest fish dealers and peddlers, who would want a few hundred or a thousand at a time to supply the wants of their few customers. Persons who have taken an interest in the catch of fish cannot help but say, that although the whitefish are not as plentiful as they used to be, there would be still less if some method had not been taken to save the eggs, and we believe that the hatchery has been beneficial. Of course, some persons are prejudiced against it, but when you come to ask them to prove their arguments, they seem at a loss to answer.

I remain, yours truly,

O. F. BONDY.

Mr. WM. PARKER.

PETITE COTE, ONT.

DEAR SIR,—I will give you my views in regard to the fishing in the Detroit River. I have fished in this river for the last thirty years. At one time I had but very little faith in fish hatcheries, but I am convinced now that they are doing good. My reasons for saying so is this ; Years ago fish were very plentiful in the Detroit River, but they kept decreasing until they came down so it scarcely paid us to fish. But this last few years the whitefish has increased a little, but herring are becoming a fish of the past in the Detroit River. I think if it was not for so many whitefish fry being turned out of the hatchery, they would be as scarce as herring.

Yours truly,

MR. PARKER. ALEX. DUFOUR.

2.—APPENDICES CONTAINING REPORTS OF THE OFFICERS IN CHARGE OF FISH-BREEDING ESTABLISHMENTS IN THE SEVERAL PROVINCES OF CANADA, 1892.

1.—FRASER RIVER HATCHERY, PROVINCE OF BRITISH COLUMBIA.

Report of the Officer in charge for 1892.

SIR,—In submitting this report of the operations in connection with the Fraser River fish hatchery during the present year, 1892, I have the honour to state as follows:—

Owing to the mildness of the weather during the winter of 1891-92, the 6,485,000 eggs of the sockeye salmon which were laid in during the month of October, 1891, commenced to hatch out very early in the spring of 1892, so that on the 30th day of January it was considered advisable, in order to prevent overcrowding in the troughs, to turn out 400,000 eyed eggs, which were deposited in a suitable place in Pit Lake.

1. There were hatched and turned out during the spring of 1892, 6,000,000 fry.

2. The fry were turned out shortly after they had nearly absorbed the sac; they werethen in a strong and vigorous condition. They were planted as follows:—

27th	February,	in Stone River	700,000
5th	March,	Silver Creek, Pit Lake	700,000
9th	do	Pit Lake	800,000
11th	do	Harrison River	950,000
14th	do	do	1,500,000
17th	do	do	900,000
19th	do	Coquitlam River,	50,000
			5,600,000
Eyed eggs planted in Pit Lake			400,000
Total			6,000,000

From the foregoing statement it will be seen that the loss of ova in the hatchery, from all causes, was only a fraction over 7 per cent.

3. As stated, the fry were removed from the hatchery in a healthy and vigorous condition; they were transported to the river, a distance of a third of a mile, in cans, from which they were turned into scows, or troughs, about 20 feet long, $2\frac{1}{2}$ wide, and $1\frac{1}{2}$ deep, having perforated ends to allow a free flow of water through them, and covers to prevent the fry from being washed out; the scows were towed by a steamer, having pieces of timber placed across its deck and projecting far enough over its sides to admit of the scows being securely made fast thereto at each end, in such a manner that the projection would take part of their weight and thus prevent them from being submerged by the current of the river or by the wash from the steamer, being thus secured they were towed as near to the place where it was intended to deposit the fry as the steamer could approach, they were then towed by row boats to the place chosen, when slides, arranged for the purpose, were opened in each end of the scows, and upon their being towed against the current the fry were slowly washed out.

In transporting the fry I adopted the only method available: the same as was used by my predecessor for a number of years.

From lack of appliances for transporting any considerable quantity of fry, by rail or steam-boat, when salt water has to be crossed, their distribution is practically limited to the Fraser River and its tributaries. I beg to suggest, therefore, that appliances of the most improved description, sufficient for the transportation of 500,000 fry at one time, be supplied for the use of the Fraser River Hatchery.

4. The hatchery, with most of its appliances, requires thorough repairs and renewals, in order to make it more suitable for another season's operations, as they are in such a state that partial repairs only cannot with safety be longer relied upon.

5. The necessary repairs would consist of the roof being reshingled, and the whole of the foundation work being renewed, namely, sills, beams and flooring, and as many of the posts and studs are decayed, when they rest on the sills, they would require to be cut and spliced, this together with new tables for the troughs to rest on, new troughs, tanks, flumes, and appliances generally; in addition to which it would become necessary to acquire the land upon which the dam is constructed. The approximate cost of the above services would be about $2,000.

CAPTURING PARENT FISH.

6. The preparations for capturing and collecting salmon (sockeye) and their eggs for the season of 1893 are complete and in good order, at Morris Creek, and are giving satisfactory results.

During the whole period in which we were engaged in securing ova, the weather was very bad and the water in the creeks and lakes rose to a very unusual height, consequent on the heavy rains, and the snow which fell early in the season on the mountains and on melting caused an overflow of the creeks, thus retarding operations and rendering it difficult to capture parent fish.

On the 10th of November I closed operations at Harrison River, and brought down to the hatchery the last lot of ova, consisting of 152,000, making the number laid in for the season, 6,237,000—sockeye ova. Up to date there have been about the usual number of eggs picked out, and as the ova is in splendid condition at present, I feel safe in saying that the loss of eggs will not exceed 7 per cent of the number laid in. As you are aware, the run of sockeye salmon was not as large as usual in the Fraser River during the season of 1892, and from interviews and correspondence which I have had with persons of intelligence, who were in a position to observe and know, I have learned that the number of sockeyes which entered the creeks above Harrison was correspondingly small, but at Morris Creek, so far as the high water allowed me to form an opinion, there did not appear to be much, if any, diminution from the number there last season, which fact goes to confirm the opinion that the larger number of salmon which frequent that creek so late in the season, are due to the fry from the hatchery which have been planted year after year in the Harrison River. The present hatchery premises are somewhat inconvenient for receiving ova, and also for distributing the young fish, and I again take the opportunity to urge upon the department to take early steps to have a new hatchery built and equipped in time for next season's work, and I beg to suggest that it should have a capacity to accommodate 12,000,000 and upwards of ova. I also beg to recommend the location of any new hatchery at Silver Creek, Harrison Lake, or some other suitable site on the Harrison waters, to be approved of by the Superintendent of Fish Culture, where it could be operated in a much more satisfactory manner, and with less risk of damage to the eggs or fry during their necessary transportation.

A suitable site for a hatchery at Silver Creek would be granted to the department by the owners of the land as a gift.

7. I again desire to bring to your notice the fact, that there are no proper appliances belonging to the Fraser River Hatchery for transporting young salmon to any place, apart from the Fraser River and its tributaries. My only available method of transportation is by having the young fish towed, in scows, to the places where they are to be turned out, and as there are at present but two steamers on the Fraser suitable for the work, I cannot altogether avoid a feeling of anxiety lest anything should occur to render their services unavailable, I will, however, use all the foresight possible in order to avoid any disappointment in this respect, which might result in serious loss, should it occur.

I have the honour to be, sir, your obedient servant,

JOHN McNAB.

Officer in charge Fraser River Fish Hatchery.

2.—SYDNEY HATCHERY, PROVINCE OF NOVA SCOTIA.

Report of the Officer in charge for 1892.

SIR,—As only temporary officer in charge, I beg to report as follows:—

1. According to the books in the hatchery the number of fry sent out in spring of 1892 was 690,000.

2. All the fry sent out were in good condition, except a small lot that we intended for Margaree River, but, after taking them to the wharf for shipment, some of them appeared sickly in the cans; we, therefore, put them in Sydney River, which was near at hand. The fry was placed as follows:—

Sydney River	360,000
Trout Brook	100,000
Ball's Creek	100,000
Middle River	100,000
Hatchery Brook	30,000
Total	690,000

3. All the fry sent out were sea salmon, and in prime condition, with the exception of those above stated; from whatever cause these appeared sickly I cannot positively say, unless it was from having too many in each can. The fry were shipped or transported to the various places, some by teams, those to Middle River went by steamer to Baddeck, and thence by teams, no railway transport being available to these places of deposit. I cannot suggest any improvement in the means of shipment at present, when the places where the fry are to be placed are not adjacent to railway communication.

4. The sum of $15 would put the hatchery in condition to do for this year, but next year a whole new set of troughs would be required, whilst with some little repair to the present ones they would carry us over this season, but they will become entirely useless for subsequent seasons.

5. The buildings are in good condition and nothing further than what I have stated above will be necessarily required, except that the reception tank inside would need to be built up anew next year. In addition to the above expense a new lot of stove-pipe, and glass for windows are required. Cost of this about $5.

6. For capturing fish for use of the hatchery we have at Sydney River two bar nets and one mesh net; at Salmon River, one bar and one mesh net; Upper Middle River, one bar and one mesh net; and at Lower Middle River, one bar and one mesh net. The nets that were at Margaree are worn out. The bar nets at the other stations are in fair condition, but the mesh nets are pretty well worn out.

By instructions from the department no parent fish have been caught for the hatchery this season, so that the hatchery will not have any eggs supplied for this season.

Your obedient servant,

W. J. DUNLOP,

Officer in charge pro tem.

3.—BEDFORD HATCHERY, PROVINCE OF NOVA SCOTIA.

Report of the Officer in charge for 1892.

SIR,—I have the honour herewith to submit my report upon the operations at this hatchery during the past year.

As previously reported, the number of ova secured and laid down in the fall of 1891, was 600,000. To this number was subsequently added a shipment of 350,000 from the Miramichi hatchery, as also the usual quota from the Ontario hatcheries.

The success attending the hatching of the salmon ova secured from the fish taken in our local rivers was not as good as usual, the cause of which I am unable to state.

The total number of fry hatched and turned out in the spring was 2,620,000.

These consisted of salmon, salmon-trout and whitefish, which were planted in the following waters :—

SALMON.

Musquodoboit River,	Halifax county	80,000
Indian do	do	40,000
Nine Mile do	do	40,000
Pennant do	do	40,000
Stewiacke do	Colchester county	80,000
Wallace do	Cumberland county	80,000
River John,	Pictou county	40,000
Annapolis River,	Annapolis county	40,000
Round Hill do	do	40,000
Gaspereau do	King's county	40,000
Total salmon		520,000

SALMON-TROUT.

Grand Lake,	Halifax county	50,000
Hubley's Lake	do	50,000
Harry's do	do	50,000
Gaspereau do	King's county	50,000
Mulgrave do	Annapolis county	50,000
Milford do	do	50,000
Total salmon-trout		300,000

WHITEFISH.

Grand Lake,	Halifax county	300,000
Hubley's Lake	do	300,000
William's do	do	300,000
Gaspereau do	King's county	300,000
Beeler's do	Annapolis county	300,000
Paradise do	do	300,000
		1,800,000
Grand total		2,620,000

The usual success attended the distribution, and the young fish were placed in the several waters named in a perfectly healthy condition.

As permission was not granted me to secure a stock of salmon ova for this season's work, none was secured, and consequently the hatchery will not be in operation until the usual supply of eggs are allowed from the Newcastle and Sandwich hatcheries in Ontario.

Considerable repairs are required in and about the building and grounds. The roof of the hatchery has become somewhat decayed and leaky, and to prevent further decay, I would suggest that it be given two coats of roofing paint. The whole exterior would be much improved in appearance and preserved by being painted. Within the hatchery painting is also required, and one-half of the hatching troughs are so decayed and leaky as to be of no further service and should be replaced during the coming summer. A new fence around the grounds is also required, the present one, being sixteen years old, is badly decayed and of no further service ; one of the outbuildings also requires reshingling, and the foundation of the partition between the hatching room and the living rooms requires repairs so as to prevent injury to the wall, which for want of support is settling.

In conclusion I might add that it is highly important to the working of this hatchery that some plan for securing supplies of ova for future operations be adopted, and that the necessary preparations for introducing such plan be undertaken at an early date.

Trusting the above may be satisfactory.

I am, sir, your obedient servant,

A. B. WILMOT.

4.—DUNK RIVER HATCHERY, PROVINCE OF PRINCE EDWARD ISLAND.

(Not in operation.)

5.—ST. JOHN RIVER HATCHERY, PROVINCE OF NEW BRUNSWICK.

Report of the Officer in charge for 1892.

SIR,—I beg leave to make the following report in connection with the operations carried on at the Rapide des Femmes Fish hatchery on the St. John River, N.B.

As already reported by me in the fall of 1891, there was a large number of salmon eggs collected in the Carleton Pond, St. John hatchery, and placed, apparently in good condition, upon the breeding trays in the hatchery. They did not do well. Having made a report of particulars to the acting superintendent on a previous occasion, I do not consider it necessary to repeat it here. On the 26th of February last, I received a consignment of salmon-trout and whitefish eggs from the Sandwich and Newcastle hatcheries in Ontario, in good condition, approximated at 500,000 salmon-trout and 2,000,000 whitefish. They were all carefully placed in position in the house, and they did remarkably well, and hatched out a large percentage of fry in the spring, which were planted in the several lakes throughout the different counties in the province bordering on the St. John River, and some also in the province of Quebec. Below will be found a tabulated statement of the different lakes and streams in which they were planted, and the number put into each. The long distances they had to be carried, in order to fill the numerous applications, necessitated a great deal of extra time and diligence. It is gratifying to report that the work was much appreciated by the parties who got the fish and the success experienced in carrying them safely to their destination.

Date.		Number.
	Distribution of Whitefish.	
April 27....	Planted in Harvey Lake, York county	220,000
do 28....	do Lake George do	220,000
do 29....	do Foster Lake, Charlotte county	220,000
May 2....	do Oromocto Lake, York county	220,000
do 5....	do Lake Utopia, Charlotte county	220,000
do 10....	do Lake Yo Ho, York county	220,000
do 18....	do Harvey Lake do	220,000
do 27....	do Jones Lake, Carleton county	140,000
June 4....	do Portage Lake, Victoria county	140,000
.....	Different small distributions	60,000
		1,880,000
	Salmon-trout.	
June 21....	Planted in Jones Lake, Carleton county	24,000
do 22....	do Harvey Lake, York county	32,000
do 25....	do Squatook Lake, Temiscouata county, P.Q.	24,000
July 1....	do Lake Disappointment, St. John county	32,000
June 28....	do Harvey Lake, York county	32,000
July 8....	do Lake Killarney do	24,000
do 15....	do Loch Lomond, St. John county	32,000
do 16....	do Portage Lake, Victoria county	8,000
		208,000

Date.	——	Number.
	Salmon.	
June 29....	Planted in Oromocto River, Sunbury county.....	40,000
July 5....	do Loch Alva, King's county ...	40,000
do 12....	do do do ...	40,000
do 20...	do Oromocto River, Sunbury county...	40,000
do 25....	do Mispec River, St. John county....	40,000
do 28...	do St. Croix River, Charlotte county ..	40,000
.....	do St. John River at the hatchery.....	50,000
		290,000
	RECAPITULATION.	
.....	Whitefish, number brought down	1,880,000
.....	Salmon-trout do	208,000
.....	Salmon do	290,000
	Grand total	2,378,000

I would respectfully suggest that in future when parties apply for fry, they should be required to fill up all particulars laid down in the blank applications, in this way we could form a proper idea of where the fry were required to go, the correct stations to stop at, the manner of conveyance and the distance from the railroad station to the waters where it was proposed to put the fry : by this means there would be no danger of passing the right station, it would put us in a proper position to know where and to whom we could wire, and order the proper means for transporting the fry on the arrival of the train to the place intended to put them, thereby avoiding delays at stations, which is so detrimental to the fry. If the department would insist upon all applicants doing this it would be of material benefit to all concerned, especially as applications for young fish are multiplying so largely annually. As soon as convenient after the young fish were disposed of from the hatchery, the work of cleaning and renovating the establishment was performed. The greater part of the interior of the house was painted, the main tank, troughs and breeding trays were all varnished, and the new metallic taps were put into their place, and all the other needed arrangements were completed. At present the hatchery and all the appliances, with scarcely any exceptions, are in good running order.

COLLECTION OF OVA.

On the 25th of last October, I was instructed by the Superintendent of Fish Culture to proceed immediately to Carleton, St. John, to act in concert with Mr. A. B. Wilmot, of Bedford, N.S., to strip the salmon which had been put in the reservoir there. On the 28th I left for Carleton with my son, M. F. McCluskey, and arrived there on the morning of the 29th and met Mr. Joseph O'Brien, the officer in charge, and consulted with Mr. A. B. Wilmot, who pronounced the fish ripe enough for stripping, when the work was commenced, and during the day sufficient eggs were got to fill three cases, which I took to the hatchery up river in company with A. B. Wilmot, leaving my assistant in charge of the salmon in the fresh-water tanks at Carleton. We arrived at the hatchery the same evening and placed the eggs in the troughs, in apparently good condition. Mr. Wilmot left the next day for St. John to complete the spawning of the fish. On the 3rd of November, Mr. Wilmot and my son arrived at the hatchery with the remainder of the eggs ; they were all successfully placed on the trays the same night, the total number of eggs obtained being about 885,000. As Mr. Wilmot had full charge of the whole operation of spawning the fish, he will, no doubt, make a full report of the work intrusted to him ; consequently it will not be required of me so to do. At present the eggs are not advanced far enough to give a decided opinion as to their fertility. The opportunity for the eggs to do well is unquestionably good. The season is mild, the

house is in good order with an excellent supply of good pure water, and strict attention paid to them night and day.

INCREASE OF FISH.

Referring to the increase of fish in our waters attributable to artificial fish culture, it has ceased to be a question of doubt even with the sceptics and critics; in this section of the country, they all now readily admit that the fry put out from this hatchery has been the principal cause of the increase of fish in our rivers and lakes. This is said to be more applicable to the salmon than to any of the other fish put out from this establishment. This opinion or belief, as regards salmon, may be accounted for in a measure from the fact that the salmon being a game fish is consequently more acceptable to the sportsmen; nevertheless the other class of fish put out from this house are showing up pretty well, particularly the salmon-trout; quite a quantity were caught last fall in Portage Lake, a small body of water about five miles from the hatchery, and I am told that certain parties have resorted to that pernicious practice, of spearing them already. It will be absolutely necessary in order to establish and perpetuate the good results of artificial fish culture in this, and in all other localities, that protection should be given and illegal fishing stopped. There is not a fish warden either permanent or special, nor has there been any for a number of years on the entire length of the River St. John, in this county, excepting one for a few months last summer. The Tobique River is the only protected water in this part of the province, and as a result, the salmon are increasing there wonderfully both in numbers and size.

REPAIRS.

Very little repairs will be required at this hatchery next year apart from those that are already ordered, but not yet finished. I would again respectfully suggest to having the hatchery grounds fenced in for several reasons that I have already named in a former report. The exterior of the hatchery is much improved by the coat of paint that it got last summer, but it exposes by contrast the weatherbeaten appearance of the roof. I have often suggested to have it painted, but for some cause it has been ignored—still it would be well to have it painted both for looks and durability.

All of the above report is most respectfully submitted.

CHAS. McCLUSKEY,

Officer in charge.

6.—MIRAMICHI HATCHERY, PROVINCE OF NEW BRUNSWICK.

Report of the Officer in charge for 1892.

SIR,—I have the honour hereby to submit my report upon the operations in connection with this institution for the year 1892.

It will be seen, upon reference to my report for 1891, that there were placed in this hatchery during the autumn of that year, 1,625,000 native salmon ova. Although this number of ova was placed in the hatching troughs, still it would be impossible to successfully accommodate this number of fry. Therefore, in accordance with instructions received from the department, I shipped 350,000 during the month of March, to the hatchery at Bedford, N.S., leaving a balance of 1,275,000 in this establishment. Additional to this number, 100,000 salmon ova were received from the Restigouche hatchery, upon the application of the Honourable M. Adams, making the total number of ova to be hatched, 1,375,000. The most gratifying results were met with in the hatching of this large number of ova, and although the trough room afforded by this hatchery, is very limited, the fry were kept in a most healthy condition until the distribution season, when they were successfully planted in the following streams:—

North-west Miramichi River, from O'Shea's Beaches to "Camp Adams"	400,000
Little South-west Miramichi, from Nohue's Crossing to Red Stone	300,000
Main South-west Miramichi, at Blackville, Boiestown and intermediate points	225,000
Sevogle River	160,000
Renous River	100,000
Stewart's Brook	25,000
North-west Miramichi, at "Camp Adams," North-west Falls and other points (Restigouche fry)	100,000
Total	1,310,000

Adding 350,000 ova shipped to Bedford, it will be seen that the total output of salmon ova and fry from this hatchery during the past season amounted to 1,660,000, showing a very small loss during the period of hatching and distributing.

Owing to there being no railway accommodation on the North-west Miramichi or any of its branches, all of the fry planted in these streams have to be carried to the various planting grounds by horses and express wagons, which makes the work very tedious and much more difficult to perform than if they were taken by rail or boat. All the fry taken to remote points on the north-west have to be carried on lumber wagons, as there is not even a carriage road within twenty miles of these planting grounds. This slow means of travel causes the fry to be kept in the cans from twelve to eighteen hours, while, if they could be carried by rail, as on the South-west Miramichi, they would be liberated after only three or four hours. I might here mention that the high, narrow cans, formerly used, were far better adapted to our way of travelling than those low, wide cans ordered by the department during last winter. When these are driven any distance over a rough road the water soon gets thrown out of them through the top, while the high, narrow cans may be taken over the roughest road without scarcely any of the water being lost. These low, wide cans are decidedly the best for carrying fry by rail, but it is impossible to use them, for the reason mentioned, when carrying fry for a long distance over a rough road, where the chances for replenishing the water are not very good. Although quite a number of these were ordered for this hatchery, it was found that they did not suit for wagons, and the old cans had again to be brought into service, except when travelling by rail, when the new ones were used with the best results.

REPAIRS.

During the month of May an estimation of the cost of repairs needed for the dams and outbuildings was forwarded to your department, but before this proposed expenditure was sanctioned, the greatest flood that has been in this stream since the hatchery has been built swept away the dams of the supply and retaining ponds, as well as all other structures about the stream. This consequently caused a much greater outlay for repairs than was previously needed. Immediately after this damage was done, I reported that all necessary repairs could be completted for about $400. The inspector of hatcheries at once visited the house and made a close estimate for rebuilding the dams and doing the other repairing, with the result that he reported that it could be completed for $375. In the meantime, men were put to work at the dams, and although the time at our disposal was very limited, I am pleased to report that the work has been completed in a most satisfactory manner at a cost of about $350. These two new dams, in the ordinary course of events, should serve the purpose for which they were built for at least ten or more years, with but few repairs.

Owing to this unlooked for outlay it was decided that all repairing not immediately required be postponed for another year. Therefore to have this house in good running order, there are several matters that need attention when the supply of ova now in the hatching troughs are distributed. Some of these requirements were noted by the inspector when here, chiefly among them being the repairing of the walls of the hatching

room, and the replacement of the old supply tank and several of the hatching troughs with new ones. The troughs will require to be removed from the room and the walls ceiled up to the bottom of the windows, as the plaster has fallen off, making it impossible to keep the room warm. The old supply tank is altogether past usefulness, as well as a great number of the troughs. I would recommend that in the future, these tanks and troughs be made of a more permanent material than wood, and think that when everything is considered it will be found that galvanized or sheet iron would be cheaper in the end than continually repairing those constructed of wood. Part of the floor in the hatching room will also require to be laid over new. The cost of these repairs to the inside of the house will be about $200. The requirements for the outside will be the rebuilding of the coal and storage sheds, which will cost about $75. A few more distributing cans, and also three crates (for conveying parent fish from the nets to retaining pond) will be required. These items will cost about $50, making the total amount of $325 outlay for those proposed improvements.

CAPTURING PARENT SALMON.

As the retaining pond was not in readiness to receive the parent fish, owing to the damage done by the summer freshet, operations for procuring them did not commence until a fortnight later than other years; consequently as large a supply was not expected, as was obtained last season. The nets and appliances were put in readiness and fishing commenced on 16th September, and carried on until spawning season set in on 25th October. A good supply was provided during the time the nets were in operation, and there is no doubt but that another hundred fish could have been secured, if it were possible to commence the work as early as other years. The fish were taken from the non-tidal parts of the North-west and Little South-west Miramichi, as formerly. The total number secured was 315. From the net on the North-west there were obtained 156 females and 90 males; from the Little South-west, 39 females and 30 males, making a total of 195 females and 120 males from which to collect the supply of ova for this season.

The total expenditure for obtaining this number of fish amounted to $482.52, showing the average cost of each fish to be $1.53.

I may state that, taking everything into consideration, the results of the past year's work have been of a very satisfactory nature. The salmon fishery of the Miramichi River and Bay is in the most healthy condition, and the working of the hatchery, as supplementary to the natural way of keeping up the supply of fish, is acknowledged by all practical men to be of the greatest value. The best proof of the success of the hatchery, is the fact that there are always large numbers of fish present in the river. Anglers and fishermen agree that the good results of the work are most plain to be seen.

It may also be stated that all the streams have been swimming with "grilse," during the past season. The men engaged to procure parent fish for the hatchery, report that it was almost impossible to keep their nets clear of these young salmon, so plentiful were they, and that they have liberated fully 2,000 during the time they have been at work. This is conclusive evidence that the supply of salmon for this river in the future is assured. In fact, the fishery is becoming of greater value every year, and the eagerness with which anglers and net fishermen grasp every opportunity to invest their money in fishing privileges and otherwise, speaks volumes. The good results of the work at this hatchery, which are so clearly apparent in the healthy condition of our fishery, is a most gratifying return for the labour and expense incurred in overcoming difficulties and obstacles of nearly every kind in the past.

COLLECTING EGGS, 1892.

As previously stated, the number of female fish obtained was 195. Excepting five fish that were slightly injured in the nets at the time of capture, this number delivered their ova in a perfectly healthy condition. The total number of eggs collected and placed in the breeding troughs was 1,425,000. These have remained in good condition and are

progressing favourably up to this date. During the past two years quite an amount of correspondence has been carried on and many suggestions made regarding the mode of capturing parent fish at this hatchery, and when Inspector Wilmot visited this establishment, last autumn, the matter was again revived. This is one branch of fish breeding that requires the closest attention, for the ultimate success or failure of a fish hatchery greatly depends upon the condition of the parent fish immediately previous and at the time of delivering her ova. Considering the importance of the question, concerning as it does the success of the institution, a few remarks may be allowed to enter here.

It has been put forward that the supply of parent fish could be obtained from net fishermen during the open season, and confined until spawning time. The result of the work as thus carried on at Restigouche has been cited as an example of the success of the plan. It may be here mentioned, as an offset to this citation, that a great difference in the rivers, not in general character, but in the more minute details of formation may exist, and operations that could be successfully performed on the one might not at all be applicable to the other. For instance, although the fish might be captured by the same methods on both rivers during the open season, yet a great difference might necessarily exist in the way of retaining them from the time of capture until spawning. Thus, while it would be feasible to convert some small natural channel on the Restigouche into a retaining pond, such a plan would be impossible here owing to the absence of these small inlets and channels along the rivers. Then recourse would have to be had to some artificial way for the retention of the fish. Every part of this river has been examined and no situation that can afford accommodation for two or three hundred salmon during the summer months can be found unless we go above tidal waters, into the rapids, where net fishing is prohibited. Then if the department were to grant special permits to operate nets up there for the purpose of procuring parent salmon, the anglers would immediately object and set up a contention that the department was encroaching upon their rights. Thus, the only alternative would be to build an artificial reservoir, such as a large floating crate.

Then the fish could not be procured from the fishermen without they were granted special permits to operate nets of a smaller mesh than is allowed by law, otherwise they could not supply any fish that would not be more or less injured, nearly every fish that enters their nets being caught by the gills or "meshed." This alone is enough to condemn the fish received from fishermen as being unfit for breeding purposes, for it will be readily seen that fungoid disease would sooner or later result from the injuries to the gills of the fish. Then again, if special license were granted two or three fishermen to operate small-meshed trap-nets, the other fishermen on the river would seize this as an opportunity to raise a contention that they were being discriminated against. And again, if two or three stands were put out and operated by our own men, all the fishermen would raise the same contention.

These are the plain facts of the case regarding the taking of salmon during the open season on this river. Either the rights of anglers would be encroached upon, or the fishery regulations would have to be overstepped, in order to procure healthy salmon from the fishermen in the tide-way.

Either of these actions would raise disturbance, which must be avoided as much as possible, and the most conciliatory and agreeable method to all parties be employed. Under the present system the fish are taken by specially arranged nets, in which it is impossible for a fish to be hurt, unless through carelessness. But the arrangement of these nets causes no hard feelings in the minds of the fishermen, as it does not in any way interfere with them, the close season having set in and their operations suspended.

Another matter which must yet be considered is, will the results be as satisfactory from the taking of parent fish during the open season as they would if the fish were captured but a short time previous to spawning? By taking the fish during the summer months in tidal waters it becomes necessary to keep them confined therein for two and three months, while, on the other hand, if they are taken in the autumn from non-tidal waters the period of confinement is limited to only a few weeks. Now, the question which suggests itself is: Whether it is natural to expect as good returns from salmon that have to be confined three months as from those

hat are only confined a few weeks? Can it be expected that fish, the nature of almon, can bear confinement in a wooden crate or any other inclosure for such a ength of time and yet remain in a perfect healthy condition? Those are questions of vital importance, and should receive every consideration, for upon the health of he parent fish depend the results of the work.

PROTECTION.

There is one matter which deserves the closest attention at the hands of the department, namely, an equal protection to all the streams and tributaries. The north-west branch of the Miramichi, on which this hatchery is situated, is well and efficiently protected from all kinds of poaching, but the south-west branch and other tributaries, that are not under the control of the same officers, do not receive the attention that they should; in fact, are almost altogether neglected. There must be some remedy for this. To protect one branch of a river and leave the others seems to be a useless expenditure. There may be many obstacles in the way of giving this portion of our river good protection, and the residents have now become so used to doing as they like that it may be an impossibility to altogether stop poaching, still it would not be a great difficulty to make an improvement on affairs as they now exist. It is a matter that will not bear inspection to have the closest protection and a hatchery on one tributary, and on another to have this work greatly injured and practically destroyed.

Submitting all of the above for your consideration,

I am, sir, your obedient servant,

ISAAC SHEASGREEN.

7.—RESTIGOUCHE HATCHERY, PROVINCE OF QUEBEC.

Report of the Officer in charge for 1892.

SIR,—I beg to submit my annual report on the operations of the Restigouche hatchery for the past year.

One million four hundred and sixteen thousand five hundred eggs were obtained in the fall of 1891, from which were hatched 1,340,000 fry, and distributed in the various waters as follows:—

June 21 to 25, Kedgwick River	250,000
do Upsalquitch River	200,000
June 27 to 30, from hatchery to the mouth Kedgwick	580,000
July 1 to 5, Metapedia River and Lake	200,000
July 5, Parker Lake	10,000
April 15, eyed eggs transported to Miramichi establishment	100,000
Total	1,340,000

I personally conducted and superintended the planting of the major portion of those fry, which were nearly all conveyed to their destination, in floating crates, in fine condition, and the little fish being nearly two months old when liberated, were large and strong, and quite capable of taking care of themselves.

The retaining pond at Tide Head was reconstructed in early spring and made ready for the reception of the fish, and the two government nets placed in fishing order as soon as the freshet in the river would admit. The first fish taken in those nets was on the 9th and 14th of June respectively, and as the fish had entered the river and were being caught in the nets at Dalhousie as early as the 15th of May and 23rd with the fly at Metapedia and Dee Side, is conclusive evidence that the first and largest run of fish had passed by before the nets in the vicinity of Tide Head could be set out. And the government Pitt's Creek net being carried away by the corporation boom coming adrift just when placed in fishing order, and no instructions given to extend the

wings of the trap-nets and keep them set during close time as in former years, has consequently decreased the catch of parent fish.

The Murray Island net captured	94
Pitt's Creek net captured	57
Purchased from M. Adams	63
do G. Duff (2 stations)	47
Total	261

A few of these fish died from fungus after being placed in the retaining pond, being injured by the nets, leaving a total of 240 spawning fish—125 females and 116 males—yielding 1,110,000 eggs, or 8,880 average to each female. Preparations for gathering in the fish began on the 19th of October and spawning on the 21st, continuing the work until the 5th of November, and all the fish stripped were again liberated. Many of the female fish were small, proving they were the second and last run of fish to enter the river—perhaps the first year in from the sea to reproduce their species. The eggs are in a fine condition, and I anticipate a small percentage of loss.

THE RETAINING POND AT TIDE HEAD.

As this pond has to be reconstructed every spring and removed again in the fall, I would suggest that instead of the present wire netting that has been used as a trial and found to be unsatisfactory and unsafe for the impounding of salmon, and liable to break away at time of freshet, it be replaced with gates or pannels, constructed of wood, about 10 feet long by 6 feet deep. These would be easily placed in position and guarantee the safety of the fish, and cheapen the reconstruction of the pond in the spring.

If the same system of capturing parent fish at Tide Head is to be pursued, some new nets and stakes will be required and the old nets repaired for next season's operations; this, including the gates, will cost about $350.

THE CAPTURE OF PARENT SALMON.

On this depends the entire success or failure of the whole work of fish culture here, and I may say capturing the parent fish is the greatest obstacle to contend with, not only at the Restigouche hatchery, but the same difficulty presents itself at all the establishments in the Maritime Provinces. It is unreasonable to suppose the two short nets now in use for taking parent fish at Tide Head, are capable of catching 400 or 500 salmon, the required number for stocking the hatchery to its full capacity. Our nets are set above all the others with one or two exceptions, and are subject to freshets and lumber running at the early fishing season, and very often the major portion of the fish have passed up river before the nets can be placed in fishing position. In order to increase the supplies of parent fish I would propose leasing a few more of the licensed fishermen's stations in the vicinity of Tide Head, and fishing them with our own men and appliances, or else carry into effect the inspector's scheme of purchasing the fish from the licensed netters at Dalhousie and retain them there in large crates in the salt water for a short time, and afterwards transfer them to the present retaining pond at Tide Head. If this could be successfully carried out, sufficient numbers of fish could be obtained for the stocking of other hatcheries than the Restigouche.

VISIBLE RESULTS OF THE ARTIFICIAL WORK.

A number of the young salmon bred and grown at the hatchery until four years old, were preserved in alcohol and sent to Ottawa for the Chicago Exhibition. These fish were twelve inches in length and about half a pound in weight. Hundreds of them were to be seen in the little pond at the hatchery during the summer months.

Also the Upsalquitch River, a tributary of the Restigouche, furnishes authentic proof of the results of planting the fry bred from the large Restigouche fish in this river. Adult salmon were never known to ascend the Upsalquitch River before the 1st of July, and then only few in number with an average of about ten pounds each, but

since stocking it with fry for the last ten or twelve years from the large Restigouche salmon—a very gratifying change has been brought about, as large thirty-pound fish are now caught in the Upsalquitch with the fly as early as the 24th of May, and giving as fine sport to anglers as the fish taken in the main Restigouche. Last season some twenty fine salmon averaging twenty-four pounds were taken with the fly on the Upsalquitch River between the 23rd of May and the 10th June. This pool was sold a few days later for some $3,000. A few years ago it would not bring three thousand cents. In going up to the forks of this river during the month of June last, several large thirty-pound salmon were seen in several of the pools.

Complaints were not heard from either anglers or netters last season. The latter made a fair average catch, while many of the anglers scored 100 salmon to a rod. The fish ran early, when the water was high and cold and the weather was favourable for angling. This condition of the river usually gives the largest scores to be made for the time among the anglers, no matter whether the run of fish may be scarce or plentiful. Several of the parent fish that were stripped and tagged from the reservoir in previous years were caught by anglers during the past season.

The officers on the river and scowmen are unanimous in saying that all the pools were well filled with breeding fish during the autumn.

The hatchery with all its appliances is in a satisfactory condition and no repairs are needed at the present time.

I am, sir, your obedient servant,

ALEX. MOWAT,
Officer in charge.

8.—GASPÉ HATCHERY, PROVINCE OF QUEBEC.

Report of the Officer in charge for 1892.

SIR,—I beg to submit the annual report of operations connected with the above hatchery during the past year.

Work in Dartmouth River was commenced on 16th May, when preparations were made for the summer, scows and flats being repaired and other necessary work accomplished.

The sphere of our work embraces the three rivers, St. John's, York and Dartmouth, all flowing into the Gaspé Bay.

Our operations are connected solely with salmon fry, all of which were liberated in good condition.

COLLECTING EGGS, 1892.

The department nets were set in the Dartmouth River on 7th and 8th June, and fished until 16th August, taking 74 parent salmon. According to instructions 23 more were purchased from Wm. Stanley, at the current price of $2 each, thus making in all 97 fish. Of these, 94 were taken from the reservoir and spawned on 5th and 6th October, only three having died in the pond during the summer months. These 94 comprised 49 females and 45 males.

The spawning continued from 7th October to 4th November, and yielded as follows:—

22 females	averaging	15,000 each	330,000
15	do	14,000 do	210,000
12	do	12,000 do	144,000
			684,000

This total of 684,000 eggs were placed in the hatchery in good condition.

DISTRIBUTION OF FRY.

The planting was commenced on 20th June and completed on 14th July.

The following statement shows the number of salmon fry bred and planted during the year, also the rivers in which they were put.

St. John	River		200,000
York	do		50,000
Dartmouth	do above falls	500,000	
do	do below do	215,000	
			715,000
Total fry			965,000

The transportation of the 500,000 fry above the falls in Dartmouth River entailed considerable difficulty and cost in carrying out the work, but in the end they were most satisfactorily planted.

HATCHERY.

The hatchery is in first-class condition. Troughs were varnished, and, subsequently, the interior of the hatchery was painted, cleaned and aired. The appliances were also fully prepared for the winter's labour of hatching.

On the 15th of August, I had the pleasure of a visit from the Inspector of Hatcheries, who recommended some repairs and improvements to the hatchery, and forwarded instructions to have some of the work done. This was done on 20th November, and consisted of repairs to the outside of building and the erection of a new porch at front of hatchery. The painting was deferred until spring.

I received instructions to purchase a coal stove and pipes for hatchery. This could only be done at the very latest stage of navigation.

APPARATUS.

We have in stock 18 new iron taps and 200 new breeding trays. The new trays arrived too late for this fall's use. The 15 screens for the troughs and 12 new distributing cans are authorized but have not yet arrived.

On the 15th of September, Joseph Patterson and Wm. C. Davis left for the upper waters in Dartmouth River to ascertain the probable number of parent salmon there might be in the river. They travelled about 35 to 40 miles, part of which was accomplished on foot. They discovered about 100 salmon. It is my opinion the first run of fish had gone a greater distance up stream before the water got so very low.

The department net has been set this year as before; anglers are well satisfied with it. The close season was observed.

The St. John, York and Dartmouth rivers are well stocked with salmon in their upper waters.

So far as I can ascertain the number of salmon captured this season in gill-nets, on the sea-coast, and at the mouth of the Gaspé River is equal to last year.

If it is the intention of the Fishery Department to adopt the same method of capturing parent salmon for this hatchery next year, I would strongly recommend an advance to Wm. Stanley of 25 cents over the average price, on each fish averaging 25 lbs. This would, no doubt, induce him to allow me the use of his fishing station during the high waters in the spring. When the freshet is low and there is still water, the salmon will not enter in traps of small mesh nets.

I am, sir, your obedient servant,

HENRY DAVIS,

Officer in charge.

9.—TADOUSSAC HATCHERY, PROVINCE OF QUEBEC.

Report of the Officer in charge for 1892.

SIR,—I have the honour to submit my report of the operations at the Tadoussac hatchery during the past season. As already reported, from the salmon eggs obtained in the fall of 1891, 624,000 were hatched and planted in the following waters :—

St. John River	168,000
Baude River, Perron's Stream	60,000
Baude River, Chisholm Stream	276,000
Mowat's Lakes	96,000
Hatchery Lake	24,000
	624,000

The above numbers of salmon fry were all planted in healthy condition. The Chisholm Stream, which received the largest quantity, is the outlet of the lake of the same name and discharges its waters in the Baude River ; this last named river runs into the St. Lawrence, three miles below the hatchery here. The Chisholm Stream has pure clear, with abundant flow of water, and is well adapted to receive a large number of salmon fry.

As usual, our two departmental nets were set in May and caught 356 salmon. Of that number 318 were kept in the pond for breeding purpose —210 females and 108 males. The 210 females were all of large size and gave 2,250,000 eggs. These are now on the trays, looking remarkably well, the embryos plainly visible now. By the new arrangement, we have a good supply of water, it passes through the fifty troughs holding the 2,250,000 eggs. As the critical period for the eggs is passed, I expect to have a large lot of fry for distribution in June next. It will be found necessary to employ as usual, the tug boat of Messrs. Price Bros. & Co. for transporting the young salmon to the Upper Saguenay. A small auxiliary hatchery at the head waters of the Saguenay would be a great help. I would recommend to use the windows, doors and some apparatus of the old building to put up a small auxiliary hatchery at the head waters of the Saguenay River, thus saving a large amount of money in the distributions in the spring; and another good reason for doing so, we have only very short time for making the distribution, as the water of the lake gets warmer quicker than in a running river.

The state of our new hatchery is very good and requires nothing for the present. The improvements required outside of the building is the change of the five-inch iron pipe for one of eight inches, which the contractor of the new building is obliged to put up ; and I would recommend this to be done next spring as soon as the salmon fry distribution is over, by the end of June next.

The other improvements very urgent are the repairs to the dam of the salmon pond, leaking all over : (1) the deals forming the dam are all rotten and require to be renewed. This work must be done at the end of March, if fine weather, or in the first days of April, when the water is very low. It will require 300 deals and probably a few cross beams. Such repairs, with the workmanship, will cost about $300, as we have to dig in the ground very much for one end of the deals.

(2) Another improvement is the raising of the dam of the lake by about two feet more to get sure of a good supply of water during winter, as our winters down here are generally cold and dry. I believe that repair could be done for $100.

(3) The third improvement required will be the fencing along the road from Mr. Urquhart's property down to the stream of the lake, at a cost of $50.

The spawning of the fish began on the 18th of October and ended on the 9th of November, without any loss of parent fish. Instead of keeping the parent salmon in scows, a small pen was fitted up in the salmon pond to keep them in, as recommended by the Superintendent of Fish Culture. As already reported on a previous occasion, the dam of the salmon pond requires some repairs—it is leaking all over. The fencing of the

ground of the new hatchery is also required. From the small number of eggs picked out at the present time, the percentage of loss will not exceed five per cent at the time of hatching.

I have the honour to be, sir,

Your obedient servant,

L. N. CATELLIER.

10.—MAGOG HATCHERY, PROVINCE OF QUEBEC.

Report of the Officer in charge for 1892.

SIR,—I herewith forward the report called for regarding the Magog fish hatchery for the year 1892.

There were 2,400,000 small fry turned out during the spring of 1892. The eggs from which these fry were hatched were obtained from the Newcastle and Sandwich hatcheries in Ontario.

Of the above 1,500,000 were whitefish and 900,000 were salmon-trout fry. They were planted in the following named sheets of water :—

Salmon-trout fry.—Lovering Pond, People's Pond, Massawippi Lake, Megantic Lake, Orford Lake, Brome Lake, Memphremagog Lake.

Whitefish fry.—Massawippi Lake, Megantic Lake, Memphremagog Lake, Orford Lake, Brome Lake.

The fry (both salmon and whitefish) were planted in the above named sheets of water in a healthy condition. About one-half of the distribution was by rail, and the balance by teams. In all cases an expert accompanied the fry to their destination, who, by frequent aeration and renewing of water, and the aid of ice to regulate the temperature, no difficulty was experienced in their transportation by rail or teams, and in depositing them in an active and healthy state.

When possible, a cool and cloudy day was chosen to transport those going the longest distance, thus avoiding the loss which sometimes attaches to putting them out in hot weather.

By referring to my letters, you will notice that I reported the hatchery in bad condition, and, in consequence, by the orders of the Department of Marine and Fisheries, it is now being put in good shape to meet all requirements. Your inspector, on his tour of inspection, saw the necessity of making the improvements and repairs, and recommended the same to the department to be done.

A full description of the work done in repairs, and the approximate cost were all explained in detail, are now before the department, to which I beg leave to refer for fuller information.

The former system of capturing and collecting parent fish and collecting fish eggs in Memphremagog Lake has been abandoned, and we now depend upon being supplied from the Newcastle and Sandwich hatcheries, as it is much less expensive getting the ova from the fish to be taken in the larger waters like Huron and the Georgian Bay.

A. H. MOORE,

Officer in charge.

11.—NEWCASTLE HATCHERY, PROVINCE OF ONTARIO.

Report of the Officer in charge for 1892.

SIR,—I have the honour herewith to submit a report of the fish cultural operations carried on at the Newcastle establishment during the past year.

The following schedule will show the points of distribution, also the number and kinds of fry placed in each locality last spring.

Salmon-trout.

Lake Couchiching, Orillia	100,000
Georgian Bay, Midland	200,000
do Wiarton	300,000
do Collingwood	100,000
Bay of Quinté, Belleville	100,000
Lake Ontario, Toronto	100,000
do Cobourg	100,000
do Newcastle	100,000
do Picton	100,000
Lake Simcoe, Barrie	100,000
Sturgeon Lake, Victoria county	60,000
Ball's Lake do	10,000
Manatowaba Lake, Parry Sound	50,000
Owl Lake do	50,000
Bond's Lake, Aurora	100,000
Spring Lake do	100,000
Lake Ontario, Toronto	100,000
Total	1,770,000

Whitefish.

Lake Ontario, Picton	300,000
do Toronto	250,000
do Cobourg	300,000
do Newcastle	400,000
Bay of Quinté, Belleville	250,000
do Trenton	300,000
Georgian Bay, Midland	500,000
Lake Simcoe, Barrie	250,000
Lake Couchiching, Orillia	250,000
Total	2,800,000

Speckled Trout.

R. A. Rikey, Shelburne	55,000
D. A. Hyslop, Ancaster	6,000
Z. A. Lash, Toronto	25,000
Geo. Henwood, Brantford	10,000
Jos. Philp, Dundonald	4,000
E. A. Dalley, Hamilton	10,000
Shaw & Shaw, Walkerton	10,000
A. W. Alexander, Guelph	5,000
David Gilmore, Trenton	50,000
H. A. Ward, Port Hope	5,000
H. I. Aldous, Georgetown	4,000
H. M. Jones, Marmora	3,000
Thos. Ford, Credit Forks	18,000
Wm. Smith, Waterdown	8,000
H. Crozier, Orangeville	10,000
Thos. Frazer, Norwood	3,000
F. Birdsall, Birdsalls	2,000
W. W. Pope, Belleville	15,000
D. McLean, Strathroy	3,000
Capt. Duncan, Morganston	2,500
Cyrus Teal, Wooler	5,000
Total	253,500

Schedule showing total number of fry and semi-hatched eggs distributed from the Newcastle hatchery during spring of 1892 :—

Fry.

Salmon-trout fry				1,770,000
Whitefish fry				2,800,000
Speckled trout				253,500
Salmon-trout eyed ova shipped to			Magog, Que	1,000,000
do	do	do	Bedford, N.S	500,000
do	do	do	Grand Falls, N.S	500,000
do	do	do	Ottawa	1,000,000
Speckled trout	do	do	do	100,000
Total distribution from Newcastle				7,923,500

I am pleased to be able to say that the fry were in good condition when planted, notwithstanding the very long distance which some of them had to be conveyed to their destination.

The hatchery is in good working order at present, having been repaired and repainted last summer; there is, therefore, nothing required at present with the exception of some slight repairs to the tanks which contain the spring water, one of which will have to be renewed before it will be safe to use it next spring.

In February, 1892, there was laid down in this hatchery 700,000 speckled trout eggs, which were purchased from parties in Wisconsin, U.S., they appeared to do well until after they were hatched out, but did not thrive or do well after, consequently a proportion of them died, thus accounting for the small distribution of speckled trout as shown in this report. No blame can be attached to any of the officers of this hatchery, as Mr. Hanson, from whom the eggs was purchased, acknowledged afterwards that they were a bad lot.

Our staff returned from Wiarton on the 27th November, where they had been engaged from the 4th of October setting nets and gathering spawn (under the supervision of Mr. Chas. Wilmot) for the Newcastle and Ottawa hatcheries, as well as many of the other establishments in the lower provinces. Although there was very rough weather to contend with during the whole of the months of October and November, there was gathered 9,725,000 salmon-trout spawn, which is now laid down in this hatchery, with the exception of the supply for the Ottawa hatchery, which was sent direct from Wiarton on the Georgian Bay to their destination there.

The present arrangements at Wiarton are fairly satisfactory for gathering salmon-trout spawn. But some little expense will be required next summer to put the nets and appliances in good working order for next season's operations, and more especially if it is decided to take eggs in any larger quantities.

There were taken at Wiarton during the past season, 9,725,000 salmon-trout spawn; there was shipped to the Ottawa hatchery, 1,250,000, which now leaves laid down in the Newcastle hatchery, 8,475,000, all of which are doing well and appear to be in first-class condition.

Attached will be found the certificates with the signature of some eighteen fishermen from the Belleville district on the Bay of Quinté under the supervision of Fishery Officer W. R. Clarke, expressing the views they hold as to the success which has resulted from the several plantings of young fish in the Bay of Quinté bred at the Newcastle hatchery.

All of which is respectfully submitted.

JOHN KENEFICK,
Officer in charge, Newcastle Hatchery.

12.—SANDWICH HATCHERY, PROVINCE OF ONTARIO.

Report of the Officer in charge for 1892.

SIR,—As it is the custom for the officer in charge of this institution to make a report of his operations during the year, I herewith present it.

Last year the report showed that there were gathered and laid in the hatchery 75,000,000 whitefish eggs, which, after leaving the incubators produced 58,500,000 young fish, and eyed eggs which were disposed of as follows :

Eyed eggs to Newcastle	3,000,000
do Ottawa	5,000,000
do St. John's	2,000,000
do Bedford	2,000,000
do Magog	2,000,000
	14,000,000

YOUNG FRY.

Point Edward, Lake Huron	2,000,000
Robert's Landing, River St. Clair	1,000,000
Mitchell's Bay, Lake St. Clair	2,000,000
Peache Island do	1,000,000
Belle Isle, River Detroit	1,000,000
Fighting Island do	4,000,000
In bay below Fighting Island	3,000,000
Stoney Island	2,000,000
Bois Blanc Island	2,000,000
In Lake Erie below Bois Bay	2,000,000
Pigeon Bay, Lake Erie	2,000,000
Bar Point do	2,000,000
Colchester do	2,000,000
Kingsville do	1,000,000
Leamington do	1,000,900
Port Stanley do	1,000,000
Hamilton, Lake Ontario	1,000,000
Toronto do	1,000,000
Niagara do	1,000,000
In river at hatchery	12,000,000
	58,500,000

The eggs were very healthy when landed at their destination, and the reports therefrom were good. The young fry when placed in the waters were in a healthy condition and the places selected were the very best points that could be thought of, being good feeding grounds for the young fish.

The collection of whitefish eggs for the season of 1892 was much larger than the previous years, the number being 110,000,000; they were collected at the following grounds :—

Fighting Island	85,000,000
Bois Blanc Island	25,000,000
Total	110,000,000

These eggs were placed as follows :—

Sandwich hatchery	95,000,000
Newcastle do	3,000,000
Ottawa do	6,000,000
Detroit River	6,000,000

Marine and Fisheries.

THE CATCH OF FISH IN DETROIT RIVER.

The reports of several of the fishermen is to the effect that the run of whitefish is on the increase, and from the knowledge obtained it has been very good this year. Appended to this report are some opinions received from a number of the fishermen.

PICKEREL.

The hatching of pickerel was discontinued this year on account of not being able to secure enough eggs to make it worth while for the expense that would be incurred for the number of eggs we might secure. In order to make a success in breeding this fish, something must be done to secure grounds in a neighbourhood where they are plentiful, and hire the fishermen to secure the fish and hold them in the pound-nets until we are ready to take the ova from them. In this way we will have the handling of the fish by paying them a stated amount per hundred, and then we would not be dependent upon others in getting supplies as formerly. The best grounds to carry out this plan is at Point Edward, where the pickerel fishing is good. The setting of nets in Lake St. Clair has been an expensive failure, and it would not be advisable to continue it in the future. The same applies to the River Thames also.

IMPROVEMENTS.

A great improvement could be made for the transportation of the young fry to the different points where they are to be placed by having a car placed at our own disposal, where we would have sufficient room to properly care for the fry when taking them long distances. When taking the fry in the baggage cars, as at present, we often have no room to take proper care of them on account of the quantities of other baggage, and consequently there is very little room left at times for the fish cans. A car of our own would greatly facilitate the work in this line.

Now that the department has taken the river fisheries into its own hands, to make the work complete there should be placed at the disposal of the officer in charge of the hatchery, a steam tug or boat for the purpose of quickly transporting the eggs gathered from the different fishing grounds down the river to the hatchery, and also for properly distributing the young fry in the lakes and rivers. This would be a great addition and saving to the workings of this hatchery, and would cost about $1,000. It would also be of great service to the fishery officers in the district for their inspection and guardianship of the waters when not in use for work at the hatchery. As it is now a great deal of trouble and expense is incurred in getting a steam-boat to convey the eggs and fry to where we wish to place them.

The instructions given last year to repair the piers on Fighting Island were carried out. Some of the piers were rebuilt, and new fishing shanties had to be erected and furnished. A new outfit of boats and nets, &c., were purchased and everything connected with the undertaking worked remarkably well.

The contemplated repairs on Bois Blanc Island, such as fixing up the old Atkinson dock and building a boat to convey the fish from one side of the island to the other were not made, being directed otherwise. Some fish pots were put in the river to hold the parent fish, but they proved a failure owing to the strong current ; it will therefore be necessary to revert to the old plan which was adopted formerly. This will cost about $300.

There should be built at the hatchery a boat shed in which to store away all the fishing boats and fishing gear, so that they may be properly cared for. This would cost about $100. This shed is much needed for the preservation of these goods.

Everything is working admirably at the hatchery. The eggs are in fine condition, and it is expected to turn out a larger percentage this year than ever before in the history of this house.

All of which is respectfully submitted.

WM. PARKER.

13.—OTTAWA HATCHERY, PROVINCE OF ONTARIO.

Report of the Officer in charge for 1892.

SIR,—I beg to submit my annual report of the operations carried on at the Ottawa atchery for the year 1892.

As usual in January last there were received from the Newcastle hatchery 1,100,000 f salmon-trout eggs, and in February were also received 5,000,000 of whitefish eggs om the Sandwich hatchery. All the eggs from both places were in first-class condition.

The small fry came out all strong and healthy, and were successfully deposited by Ir. Veale, officer in charge of the fisheries exhibits, in the following places:—

SALMON-TROUT.

Lakes Nos. 6 and 7 (Joliette), Que	54,000
Lavant Station	36,000
Rideau Lake, Portland, Ont	180,000
Charleston Lake, Ont	198,000
Charbot Lake, Ont	126,000
Meache's Lake, Que	108,000
Deschesne Lake (Aylmer), Que	180,000
Wiltsie Lake	72,000
Meache Lake	45,000
Total	999,000

WHITEFISH.

Consecon Lake	795,000
Picton (Long Point)	265,000
Belleville, Bay Quinté	1,000,000
Deschesne Lake	1,000,000
Meache's Lake	850,000
Total	3,910,000

On the 2nd of November last, I received orders to go to the Newcastle hatchery o take charge whilst the officer in charge and his men were away collecting eggs at Marten, and on the 14th of November I returned to Ottawa, bringing down vith me 1,000,000 salmon-trout eggs, which were carefully laid down in the troughs at he Ottawa hatchery. These eggs were very good and are doing well so far. On the th December I received about 5,000,000 of whitefish eggs from the Sandwich hatchery, ut being the last lot of eggs collected this season, the weather being very cold and tormy, these eggs are not so good as usual, and a new supply will be obtained to make p any losses which may take place.

I am glad to say the Ottawa hatchery will need no repairs for the next season's perations, everything being in perfect order.

The hatchery, this year, has been visited by over twenty thousand people and all vere delighted at seeing millions of salmon-trout and whitefish hatching out and swim-ning about in the tanks outside in the yard.

I have the honour to be, sir,

Your humble servant,

JOHN WALKER,

Officer in charge.

14.—BAY VIEW HATCHERY, PROVINCE OF NOVA SCOTIA.

Report of the Officer in charge for 1892.

SIR,—I beg to make the following report of matters pertaining to the Bay View lobster hatchery.

1. The quantity of lobster fry hatched and turned out during the season of 1892 was 63,500,000.

2. Lobsters from 2 to 6 days old were placed along the coast, from one to two and a half miles from shore, between Arisaig, county of Antigonish, and Pugwash, county of Cumberland, N.S., about one million to a mile.

3. The fry were planted daily between the 18th June and the 6th July, both days inclusive, principally by steamer.

By having a good steamer of speed not less than 10 miles per hour, fry can be distributed from this hatchery along the coast of Prince Edward Island, from East Point to West Cape.

4. This hatchery is in a good state of repair. A new 6-inch salt water iron suction pipe has been procured, and a solid brick engine bed has been built. The wharf which was damaged by ice last March is now being thoroughly repaired and strengthened.

5. One new trough to receive the fry is required in addition to those in use. The screens between the floor troughs require to be renewed and some six new ones will also be needed.

Six new galvanized iron pans are required to take the place of the old tin pans, rusted out.

About 50 feet of 1-inch hose to conduct fry from the waste to the floor troughs also required. The cost of the above will be about $60.

Fitting and laying down suction pipe and repairing pump and inspirator will cost about $25. Repairing fresh water tank, and perhaps some trifling jobs about pipe, $15, making in all about $100.

6. About one-half of the ova required for next season's operations can be obtained at the factory of Messrs. Burnham & Morrill, within 300 feet of the hatchery.

It will be necessary to employ a steamer for a short time to collect ova from Pictou Island and vicinity, say for five or six days, and for about fifteen days to distribute fry.

I am, sir,

Your obedient servant.

ALFRED OGDEN.

15.—MOISIE HATCHERY.

(Private, not under the control of the Fishery Department.)

Hon. C. H. TUPPER,
Minister of Marine and Fisheries,
Ottawa.

SIR,—I beg to submit herewith the annual report of the expedition to procure salmon eggs for the hatchery on the Moisie River for the season of 1892.

Our party left the station at 5 o'clock on Wednesday, the 12th October, on the trip for the eggs. The day was fine but there was a strong breeze of north wind. We had dinner at the foot of the portage at 11 o'clock, continued on our way and reached the head of the portage at 4 o'clock, where we camped for the night. The next morning we left at 6 o'clock for the head of the river. The weather continued fine and we arrived at the fork of the river at 5 o'clock at night. The next morning we left for the seining grounds at 8 o'clock. At the first cast of the seine we took 4 female and 2 male salmon; at the second, we took 2 males; the third, 1 male; the fourth, 2 males, and the fifth, nothing. We returned to the camp at 11 o'clock. The next morning which

was Saturday we left for the seining grounds at 8 o'clock. At the first cast we took 2 males; the second, nothing; the third, nothing; the fourth, 1 male, no good; the fifth, 1 male, and the sixth nothing. We returned to the camp at mid-day and rested quietly till Monday morning. We started to come down at 6 o'clock, reached the salmon hatchery at 2 o'clock and deposited the eggs in the rills. Continuing our journey we arrived at the post at half-past six.

The number of eggs estimated to have been placed in good condition in the hatchery is about 80,000.

In a letter of recent date received from the caretaker of the salmon house, he reports very few bad eggs taken out of the beds so far.

I remain, sir,

Your obedient servant,

JOHN HOLLIDAY.

3.—ANNEXES.

FISH PROTECTORS.

THEY MEET HERE TO DISCUSS PLANS FOR THE FUTURE—LAWS ARE OPENLY VIOLATED—NEW YORK GAME LAWS APPEARED TO BE THE MOST PERFECT—AND WILL PROBABLY BE ADOPTED AS A UNIVERSAL SYSTEM.

(From Detroit Journal, Dec. 20th.)

A conference of the various State and Canadian Fish Commissions opened at the Hotel Cadillac this morning. The last conference was held at Hamilton, Ont., 8th December, 1891, when an adjournment was taken to meet here in October last, but owing to the pendency of the political campaign the meeting was postponed until to-day.

Those in attendance at the session were C. F. Osborn, of Dayton, representing the Ohio Fish Commission ; L. D. Huntington, president, and W. H. Bowman, secretary, of the New York Fish Commission ; Samuel Wilmot, Ottawa, Ont. ; Edward Harris, Toronto, Ont., and Thomas Marks, Port Arthur, Ont., representing the Dominion Fisheries Department ; E. W. Gould, Leasport, president of the Seas and Shore Fish Commission, of Maine ; Dr. Robert Ormsby Sweeny, sr., of Duluth, president of the Minnesota Game and Fish Commission ; Herschel Whitaker, Hoyt Post and Frank N. Clark, of the Michigan Fish Commission ; C. W. Keys, of the Sandusky Salt Fish Company ; Frank J. Amsden, of Rochester, N.Y., members of the New York Cheaper Fish Food Association ; S. A. French, of Baltimore ; Judge J. J. Speed, W. W. Griffin, Wm. Dupont, A. G. McDonald, John Zimmerman, Otto H. and C. H. Rush, C. H. Moore, George C. Gree, Wm. Craig and A. Solomon, all of Detroit.

THE OBJECT OF THE MEETING.

The meeting was called to order by Herschel Whitaker, who stated the object of the conference to be a free discussion of the laws of each state governing fisheries, with a view to adoption of a universal system throughout the entire country. It is also desirable, he said, to adopt a uniform law governing the duties and powers of state wardens which shall secure a satisfactory enforcement of such laws as should be adopted by the various states for the purpose of regulating the taking of fish and game. Commercial fisheries, said Mr. Whitaker, should also be an important matter to come up for discussion, as well as the best methods of re-stocking the streams and securing to the public the benefits of artificial propagation. The various State and Dominion Governments, he said, have been liberal in the matter of supplying fish for food, but we all know that the laws already enacted are being openly violated, and, therefore, for the purpose of acquiring universal laws we have asked men interested not only in fish culture, but in commercial fisheries, to meet with us and discuss these important matters.

In the absence of Senator McNaughton, of New York, who had presided at previous conferences, Mr. Whitaker was chosen chairman, and Frank J. Amsden, of Rochester, N.Y., secretary.

Letters were read from Hon. Emory D. Potter, of Toledo ; A. Booth, of the Booth Packing Company, Chicago ; Messrs. Dunning, of Wisconsin, Skinner, of St. Lawrence, N.Y., Sec. Stewart, of the Canadian Fisheries Conference, and a number of others, all of whom regretted their ability to be present.

A letter was also read from Levi Brown, of Sand Beach, Mich., a fisherman of 30 years' experience. He admitted that state fish hatcheries had been of incalculable value to professional fishermen, but thought more stringent laws should be enforced for the protection of the young fish. He would make a penalty of from $100 to $500 for every whitefish of under 1½ pounds found in the possession of any person, fisherman or otherwise. He also thought every state should adopt a close season system for the purpose of giving the fish a much needed rest.

The very classes of fish laws, some good and others so loose as to be no good, were discussed generally. The method of employing wardens and deputies for the enforcement of laws in several of the states was thoroughly aired. In the evening they partook of a banquet.

DEC. 21.

The conference of fish commissioners was rather slow in getting to work this morning, the labours of last evening's session being regarded as too burdensome for most of the delegates. Mr. Andrews, of the Minnesota Commission, gave an outline of the work accomplished at the annual meeting of his commission last week, and also read a bill prepared at the meeting to be submitted to the Minnesota Legislature. The clauses referring to the exportation and importation of fish out of season appeared to impress the members of the conference as the best they had ever seen. State Game Warden Hampton, of Michigan, also admitted that the bill contained many good points which would better enable the wardens to secure the conviction of violators of the fish and game laws.

Committee to which was referred the matter of outlining universal laws to present to the legislature of each state and province recommended as follows :—

1. That all small fish and those unfit for food of all kinds when taken in nets, should be replaced in waters when taken alive ; that fishermen should not be allowed to take such fish on shore, nor expose them for sale.

2. That no string of pound-nets used in the lakes shall extend more than four miles from shore.

3. That one-half part of all channels between islands or elsewhere where fish might migrate to spawn shall be kept free from nets of all kinds at all seasons.

4. That all whitefish taken of less than one and one-half pounds in weight and all salmon-trout less than two pounds, shall be returned to the water when taken, and shall not be exposed for sale ; that herring of less than eight inches in length and all wall-eyed pike of less than twelve inches in length shall be returned to the waters when taken, and shall not be exposed for sale.

5. That the month of November in each year be made a close season in all the great lakes for whitefish, herring and salmon and lake trout.

Your committee would further recommend that all penalties fixed for violations of any laws that shall be enacted shall be made not only to apply to those who take fish but also to all persons who buy, sell or transport or have the same in their possession.

Mr. Keys, of Sandusky, thought the conference ought to take some action towards securing the suppression of gill-net fishing, but others thought if a clause to that effect was inserted in the report it might injure the chances of passing the proposed bill by the various legislatures.

The conference declined an invitation to visit the United States fish hatchery at Northville, and adjourned to visit the Dominion fish hatchery at Sandwich. A short business session will be held prior to the banquet this evening.

A.—EXTRACTS FROM PROCEEDINGS OF THE INTERNATIONAL FISHERIES CONFERENCE, HELD AT DETROIT, MICHIGAN, TUESDAY AND WEDNESDAY, DECEMBER 20 AND 21, 1892.

Mr. Whitaker, of Detroit: I will call the meeting to order and state in a general way the origin of the International Fisheries Conference and its objects. Something like two years ago, the Parliament of the province of Ontario passed an Act appointing a Game and Fish Commission, and empowering that commission to take testimony on the condition of the fisheries of the great lakes and the inland waters, and also the game of the province. They were also requested to confer with the states bordering on the great lakes respecting the fisheries and the enactment of uniform laws for the protection of commercial fisheries of the great lakes. The outcome of the efforts of that board was a called meeting at New York. At the New York meeting the province of Ontario, and I think the state of New York, and perhaps some of the other eastern states, although I am not sure about that, were represented. Very little was done at that meeting, and it was finally adjourned to meet at Rochester. There, some discussion was had upon these matters, and certain committees were appointed, and some resolutions were presented and considered, and their further discussion was postponed to a meeting called in Hamilton, some time about October of last year. At that meeting the subject was taken up and pretty fully discussed; and I think as a result of that meeting some recommendations were made to the Parliament of the Provincial Government. Since that time, through the efforts of the Game and Fish Commission, some protective laws have been passed, and I believe they consider that there has been some benefit derived therefrom.

It was thought at that meeting that it would be beneficial to all of us who have an interest in these things to have an adjourned meeting, and keep up the organization, and upon my invitation that body adjourned to meet here some time in October of this year. But owing, as stated in the circular sent out, to the pendency of the presidential campaign, it was deemed best to postpone it until after the close of the campaign. We are to-day meeting for that adjourned conference. Considering the matter, we thought it advisable to give a little broader scope to the proceedings of a conference of this kind than was originally contemplated. Those who are engaged in fish culture know that the decay of the fisheries has been constant and gradual, notwithstanding the States are engaged in artificial propagation, and doing their utmost to restock the great lakes as well as the inland waters. But really the matter in which the States are most interested, and the people, is the preservation of the commercial fisheries of the great lakes. It seems to me beyond all question that the lines along which we shall work must be the same; that our views should be uniform as to the necessity of imposing a reasonable regulation upon all fisheries, that will preserve for the future the benefits of the great lakes and their immense food-producing product. It is to the interest of the people most decidedly, because here nature provides for us, without the culture of man, a constant and increasing, if properly preserved, food supply, and a very important one—a cheap food and a wholesome one. It is certainly in the interest of all classes that this business should be protected, and the thing we have to contend against as fish culturists is the fact that while we are annually putting into these waters, for the purpose of renewing them or sustaining them a large number of fish, and the governments have been liberal in this matter of propagation and distribution, we are confronted by the fact that thousands of tons of fish are annually taken by the fishermen that have never come to a mature or spawning age. This process of fishing is destroying not only our own work, but is destroying the fish that are naturally in the lakes which are taken

before they have ever spawned. What we must all face is this question of how we shall perpetuate the fishing on the great lakes. Incidentally comes up the question of whether we shall have a close season that shall be uniform with Canada. Canada has a close season of the month of November, the month in which the spawning of salmonoids is principally performed. There is also the question of the regulation that should be laid upon fishermen in other respects.

I will say that we have taken pains to invite here to consider these questions with us the commercial fishermen of the great lakes. They, I believe, understand that we as fish breeders are not attempting to interfere with their business, but that as people who represent the states, as people who are attempting to renew and build up the fisheries, we ask them to help us to impose some regulation that shall not take from the great lakes or smaller bodies of water these immature fish, and that have no commercial value. I think now, gentlemen, I have stated our objects broadly enough.

Chairman WHITAKER: I have a letter from Mr. Booth, of the A. Booth Packing Company, of Chicago, one of the largest dealers in our lake fish there is on the borders of the lakes. He says:—

CHICAGO, December 17th, 1892.

Herschel Whitaker, Esq., Detroit, Mich.

DEAR SIR,—I am very sorry to say that I am called away to New Orleans and shall not return in time for your meeting at Detroit, but I sincerely trust you will have sufficient people to attend the International Fish Conference and that their deliberations may result in the general good of protection of fish and fish culture, the enforcement of laws and the passage of others that may be beneficial. There seems to be generally throughout the states good laws for the protection of fish and game, but unfortunately there seems to be more "honour in the breach than in their enforcement." We have called the attention of some fish commissioners to the small meshes of pound-nets and gill-nets, which I think do more to destroy the fishing interests of the lakes than anything else, and I do hope we may profit by the better observance of the laws in reference to the protection of fish and game enacted in Canada, or rather the enforcement of it. I should very much like to see a more cordial feeling existing between our country and Canada in reference to uniformity of the fish laws, and trust at your deliberations much good may result, and am

Very sincerely yours,
A. BOOTH,
President, A. Booth Packing Co.

Mr. GREEN.—I have a letter here in answer to one I wrote, from an old fisherman of thirty years' experience. I would like to have the letter read to the conference.

Mr. WHITAKER.—No doubt the conference would be glad to hear it. The Secretary will please read it.

The Secretary read the letter of Mr. Levi Brown, of Sand Beach, as follows:—

SAND BEACH, MICH., Dec. 19, 1892.

Mr. GREEN.

DEAR SIR,—In reply to your letter will say I am glad to hear from you. I will give you my ideas of fishing and what ought to be done in the future to protect the hatcheries and fish. I have fished about thirty years now, and you know that I have always made a success of it. The hatcheries are a great help toward increasing the fish, but unless something is done to protect the small whitefish we have for a number of years planted a number of millions each year—we shall fail. We find that these fish are caught when only from one to two pounds in weight, as you know, and they are only half grown. For one place they are destroyed in Saginaw Bay by the tons and in other places the same. We understand that the small mesh has been a failure in the way of protecting the small whitefish. I think the best way is to put a fine on the man who catches them, also on the consumer, or who ever has them on hand—anything under one and a half pounds.

You know these small fish when caught could be thrown back into the water and would live. Fish of that small size are of no use to anybody. There should be a fine of $100 to $500 for any man who is caught with them. Unless this is done the fish are not protected much.

I think the fish ought to have a rest the same as the game, to give them a chance to gather on their feeding grounds. Now there are fishing tugs that fish the year round unless it is a very hard winter. I am not talking altogether about others, as I fish with a tug and sail boats myself. I can make a success of it if have five or six months out of the year, and others should be satisfied. I think in the spring, from April 1st to July 1st, and in the fall, from September 14th to December 1st, should be a close season. This gives us three months in the spring and three months in the fall to fish. That is six months to fish, and that ought to satisfy the fishermen. Some may think the Canada fishermen will have a better chance, but I think not, for as they hunt them up they would crowd on this side. The fish work the same as the game. Some fishermen may think this would be a damage to them, but the price of the fish would come up so I think it would be a benefit to all the fishermen. Mr. Green, I give you the best of my ideas, and perhaps you can better them in some places, but I hope this will give satisfaction to all. Don't forget to let me know how you prosper with this.

Yours respectfully,

LEVI BROWN.

Chairman WHITAKER.—In some respects, gentlemen, the first subject for our discussion and consideration in my opinion is one of the most important we have for consideration here. What we need to do is to agree upon a uniform fish and game warden law. And it should not be a fish and game warden law that simply provides places for men who do not perform the functions of their duties. Unfortunately for the state of Michigan, and I know that is largely so in the state of Ohio (I think their law is very much the same as ours), our law calls for the appointment of a chief warden whose compensation is $1,200 a year, and is paid by the state. It permits the appointment of not more than three deputy wardens in each county by the chief warden, and their compensation is fixed by the board of supervisors. The result has been that we have absolutely no enforcement of the law, because the supervisors will fix no compensation, and therefore the wardens are simply figure-heads. What the state should do, in my opinion, is to pass a law which should make these wardens paid by the state—should pay their expenses by a warrant drawn on the State Treasurer, and countersigned by the Game Warden-in-Chief. I may have something further to say upon it, but it seems to me this evil may be remedied in that way.

The subject is now open for your discussion. In the first place I think this subject ought to be anticipated by the discussion of the question, should we agree upon a uniform warden law? I will take the liberty of calling upon one or two gentlemen who I know who are familiar with the enforcement of the laws in their localities. I will ask Mr. Wilmot to give us the workings of the warden law, so far as he is informed in his jurisdiction, and to talk upon the matter before us as in his judgment he should.

Mr. WILMOT.—Mr. Chairman and Gentlemen—I feel a good deal of deference in appearing before you. In the first place, we do not come to represent the province of Ontario or any of the provinces of Canada. We come here on behalf of the Dominion Government, to listen to what may be said, with a view, if possible, to learn something and to give as much information as we can, but over this question of wardenship we have no jurisdiction whatever. The Dominion of Canada has had laws controlling these matters since the federation, but at present there is a dispute arising between the local governments of the provinces and the Dominion on that question. In the meantime, the Federal Government is making what are termed the fisheries laws. They have for several years appointed what are termed the fisheries officers. The Dominion Government has nothing whatever to do with the game laws. They are wholly under the jurisdiction of the local governments. The local governments of Canada have control of the game laws. Therefore, the proceedings we are entering upon are quite beyond my jurisdiction to give you any light upon. If the question comes up with regard to

the appointment of fisheries officers I will be glad to give you what information I can. But it is beyond my power to give you any knowledge upon this subject of game wardens, because we have nothing to do with it. If we have any representative here from Ontario, perhaps he can do so. In the meantime, I must decline to discuss that subject.

I might also state, while I am on my feet, that I notice the meeting has been called the International Fisheries Conference. At first I was under the impression that it wasn't my sphere to be here at all, because it is not our province to deal with international questions. International questions can be dealt with only by the federal officers of the United States on the one hand, and Great Britain on the other. This could hardly be called an international meeting. With all due deference to the International Fisheries Conference, I think it more appropriate to call it an Interstate State Fisheries Commission, in which the states proper would have an opportunity of expressing themselves, but international action, I think, is beyond the jurisdiction of any of us. We in Canada have to leave all those questions to a higher power—Great Britain. The province of Ontario had given information to you previously that they were desirous of having a meeting of this description. The province of Ontario never communicated that wish to the Dominion Government. We never had any knowledge of it. Consequently the Dominion Government had no communication, and received no invitation from the previous meetings you held, which I deemed of great importance. The reason why we are here is this: The Dominion Government appointed a special commission consisting of myself and my colleagues, Mr. Harris, of Toronto, and Mr. Marks, of Port Arthur, to investigate matters in the province of Ontario, with a view of ascertaining what could be done to improve the fisheries and if possible to do away with the cause of complaints and clamours that now exist among the fishermen in their work. They were all complaining of the scarcity of fish. They were all complaining of improper close seasons. And that special commission has been engaged during the last few weeks taking evidence around Lakes Erie, Huron, the Georgian Bay, and a portion of Lake Ontario. While away from home I received your kind invitation to attend the meeting but could not accept it at the time, because our duties did not extend sufficiently far to enable us to attend meetings of this kind. I therefore telegraphed to our Minister of Marine and Fisheries asking whether we would be permitted to come here and listen to what might be said, with a view of being benefited by any expressions that come forth here. His consent was given; he telegraphed, "By all means attend the meeting," and hence we are here. When you get down to the question of fisheries I will be glad to discuss that, but it would be out of the place to say any more.

Chairman WHITAKER.—I will say to the representatives of the Dominion Government that we are exceedingly glad to have them here, and we hope they will participate in every subject that may come up for discussion. This child, the International Fisheries Conference, was baptized without my consent. I did not know what its name was until long after the act was performed. It makes but very little difference, however, what its name may be, the proceedings that have been at these meetings have been in the nature of a conference of states and provinces, or whatever you may be pleased to call them, of different nations, and it has all been tending toward the general good of all in that line. We ask every person who is interested in these questions to be present with us at our meetings and express their sentiments freely. It binds no one, but if by these conferences good can be brought forth, the states and the provinces are so much benefited. * * *

We will now proceed to the second order of business, No. 2, and I think, perhaps, in the discussion of these matters, it will be well to take them up as an entirety. I will read them:

1. Should there be a close season for whitefish?
2. If yes, what shall be the limit?
3. Shall a restriction be put upon the size of fish to be taken, or had in possession, or on the size of mesh?
4. Penalties.

There are many other things which it would be proper to discuss at this time, but the programme itself is but a starting point for discussion. The matter is now open for consideration and we would be glad to hear from any member of the conference. I know

of one gentleman present, the better part of whose activity for the past twenty-five years has lain in the direction of a better enforcement of laws, and in the creation of new laws, and in as rigid an enforcement as could be given. I know that he is thoroughly familiar with every point that is concerned here, and I would ask the Hon. Samuel Wilmot to respond.

Mr. Wilmot.—Mr. Chairman and Gentlemen—You impose on me a rather onerous duty just now, but notwithstanding it gives me pleasure to rise and speak. Should there be a close season for whitefish? I think if it should be put, "there shall be a close season for whitefish," it would be much better, and I think the probabilities are that we would pass the resolution almost at once in favour of it. But this throws the matter open for discussion now and I beg to make some remarks upon it.

A close season for whitefish is perhaps more required than for any other species of fish on this American continent. I think the whitefish are pre-eminently the best fish that inhabit the fresh waters of North America, and at one time they were perhaps the most numerous, but of late years they are becoming very scarce; indeed, so much so that we find almost every state in the union, whose territories border on the great lakes, is endeavouring in some way to protect them, and each is trying to outdo the other in artificially producing them, thus giving evidence that they are considered a superior fish, and testimony that there is something that calls for this protection. Without any degree of egotism, I may say that it has been a labour of love of mine for the last twenty-five years to aid nature in its production of fish for the commercial benefit of the country, and as a luxury for the table. I may say that I originated the artificial propagation of whitefish as a public work, and, therefore, have taken a very prominent part all the way through in carrying out that industry, and, at the same time, while I have done that, I have never been so foolish as to say that artificial culture of fish is going to supersede the natural. I regret very much to find, in many states of the union, and among my own people in our own country, that they have the idea that if they have hatcheries here and there, there is no necessity for close seasons being carried out. This feeling predominates more with fishermen than any others. It is a fallacy to think that the construction of hatcheries for the artificial breeding of fish is going to supply the want. The fishermen, however, as I said before, claim that if we build hatcheries, no close season will be required. This, then, brings the subject at once before me.

I am a strong advocate of close seasons for every description of fish, not only for whitefish, but for all others, because I think in the first arrangement of nature, the balance was perfect, and when you disturb that balance, we necessarily will have to make it up by some means by which man is capable to a certain extent of bringing about, and that is by protection and by artificial production. A close season for whitefish is above all others, I think, more necessary than with any other fish. They are an innocent fish in their nature, they are not voracious. They are very prolific in their nature, and it was intended, therefore, that they would to a certain extent keep up a sufficient supply for the more voracious fish to live upon. When that other destroyer of fish, mankind, come in, he destroys that balance altogether, and he has done it.

The consequence is that whitefish, of all others, should be protected, and a close season should be established for them beyond all question. I propose that every state bordering on the waters, which are also within the jurisdiction of Canada, shall now meet the Canadian authorities in establishing close seasons for these fish.

In Canada we have established a close season for the month of November and we find every evidence, which cannot be very well controverted, that it is the proper month. With my view it perhaps should be a little more than the month of November, but the month of November will fairly cover the spawning season of whitefish throughout every water in this continent to which they are indigenous.

As I said this morning in referring to the matter, a commission has been appointed by the Canadian Government to get information concerning the spawning periods of fishes and the description of the nets used to catch them, with a view of reporting to the Government that it might perhaps take some better means to protect the fish. This commission has been at work for the last six weeks, and they have found at every place wherever they have been along the shores of Lake Erie, Lake Huron, Georgian Bay, Lake Simcoe and a portion of Lake Ontario, that the fishermen all unanimously say it

is judicious to have a close season, but to a certain extent disagree as to when it should be. Some say a shorter period than the month of November, and some say a shorter period would be fallacious, but at the same time they all maintain that there should be a close season for the preservation of fish.

The greatest obstacle we have met with is this: They say that while we advocate the propriety of a close season for white and other fish, it would appear to be almost useless to carry it out on the Canadian shores, when our cousins across the water have no close season. That is the greatest obstacle we have to encounter. All sorts of opposition has been brought against our close season. They state it has had this effect, that they, as Canadian citizens, cannot catch fish, but when they look across the water they find the Americans are fishing during that period, still those in official position simply say this, that if the United States authorities take no action to preserve their fisheries, it is no reason why the Canadian authorities should not take action to preserve theirs, because in the end it must be beneficial to us, and those who do not preserve the fish must afterwards come to us to get their supplies of fish.

So it is difficult with us to thoroughly establish a close season for the fish when you have no close season on your side of the water. I am inclined to think if the people here go on, as they have been, for a series of years to come, upon your side of the international boundary of the lakes, the waters will become wholly depleted of fish, but I think if the two countries will join together the result will be very beneficial.

Now, I will state as briefly as possible, the great damage that has resulted from the want of proper laws for a period of years back, and I will give you a little information that I have obtained in the last three or four weeks from practical fishermen—men who have been engaged in fishing for the last fifty years. This information has been received under oath from them, and, therefore, can be more fully relied upon than if merely given in the ordinary way. We find that on the Georgian Bay, which is very extensively fished in connection with Lake Huron, there are a great number of fishermen there who formerly fished on Lake Ontario thirty or forty years ago. The whitefish at that time were very abundant there, and we have positive evidence from a number of persons who say that they fished in Lake Ontario some thirty years ago, and it was not unusual for them to catch as many as twenty, thirty and forty thousand whitefish at one haul of the seine in a night, and we have this sworn evidence of two others who, it appeared, had joined together in fishing on one or two occasions; that one night they caught ninety thousand whitefish with a seine. Well, it went on, there was nothing to prevent it at that time; there was no close season, and they did as they pleased. The question was then put to them, why did you leave Lake Ontario and come up here and fish in Georgian Bay? "Well, sir, we left because the fish had gone; we pulled up our stakes and left Lake Ontario and came up to the Georgian Bay to fish." Nothing can be plainer than that.

There was a lake at one time most abundantly supplied by nature with fish. The fishermen had to leave that lake and go up to the Georgian Bay to fish, and are there now engaged in fishing, but they say: "If you allow this same procedure to go on, although you have a law now, loosely carried out as it is, the same results will be experienced in Georgian Bay as in Lake Ontario." Nothing can be more clear to my mind than that the want of judicious laws some years ago has been the cause of the loss of the abundant supply of fish in Lake Ontario. The fishing has been destroyed there so that the lake is now depleted, and the fishermen have to go to the western lakes. I therefore think that nothing can be more evident than that there should be a close season for whitefish.

The second question is, "If yes, what shall be the limit?" I have expressed my views on that question, that I think it should be the month of November, because from the evidence we have obtained on Lakes Erie, Huron, Georgian Bay and portions of Lake Ontario, it seems that the most favourable season for the emission of eggs of the whitefish is in the month of November, from about the 5th to the 15th or 20th, varying a little, sometimes to the end of the month, and in some cases it begins perhaps as early as the middle of October, but the month of November throughout all these waters, I am now convinced, will fairly cover the spawning season of the whitefish. Do I understand, Mr. Chairman, that we are to take the whole of these four questions?

The CHAIRMAN.—I think it would be more convenient to do so; they naturally come together, and I think it would be better.

Mr. WILMOT.—Then the next is: "Shall a restriction be put upon the size of fish to be taken or had in possession, or on the size of the mesh?" These are three important subjects. It is necessary for the preservation of fish in all waters that there should be, first, a proper close season for their spawning time; second, we should decide what time of year this shall be; and third, there should be a regulation with regard to the mesh that may be used for catching them, in order to prevent immature fish from being caught.

From the experience I have had of more than half a century with regard to this matter, I think that the proper order in which these questions should be placed is, first, the proper close season to allow the mother fish to spawn, and second, a regulation to prevent the immature and small fish being taken, those not large enough for the market or large enough to reproduce their species, and the last is the artificial propagation. I have talked upon the necessary close season, which I trust will appear necessary to you.

The regulation of the mesh is now an important question, because we find from our investigation, not only during the past six weeks, but what has come under my observation for the last twenty years, that perhaps as much destruction is caused by the killing of the immature fish as of the mother fish. The mother fish may produce something, but if you allow the destruction of the young before they are able to reproduce, it is like cutting a string off at both ends—you soon exterminate the species altogether. I should, therefore, contend that the regulation of the mesh is just as important a matter as a close season almost. The mesh should be regulated with every description of net. But the difficulty comes up with regard to the different kinds of net now in use. The pound-net is being advocated by a great many as being the best engine. Others again contend that the gill-net is the best. But I think upon the whole that the pound-net, if it is properly regulated, is superior so far as the quality of the fish produced on the market is concerned, and also for the preservation of young fish, if the mesh is properly arranged. We find all the way through that the pound-net has been put in operation without any sort of regulation as to the size of the mesh, or as to the pot or leader or anything. The fishermen have been allowed to do just as they pleased in every possible way. The consequence is that it has run down to such an extent that the pot or pound in which the fish are usually caught has gone down to a mesh of two inches, or an inch bar. The consequence is that everything that gets in them will be caught, and the destruction has been going on by wholesale, and it becomes the duty of all persons who are the conservers of the fishing interests of the country to establish a proper mesh for the pot of the pound-net, otherwise you are doing as much harm nearly as in killing the mother fish with her eggs.

You can readily understand with an inch bar or a two-inch mesh, a net must be very destructive to almost everything, and you will understand that whitefish of six, seven, eight or nine inches, are taken in abundance. The strongest evidence of their being unsalable is that they are buried in the sands. But we have evidence strongly to that effect, that they get into these nets and the fishermen are not going to be bothered with letting them go again, and in fact the whitefish is so delicate in its nature that the slightest injury causes its death, and they bring them ashore, and they are sometimes buried in the sands. You can readily understand what a vast amount of injury results from that. In the first place, it is the killing during the close season, and the next is the killing of immature fish. This should be remedied by all means, and if the United States authorities would join with Canada in these matters and regulate the pound-net with regard to its mesh, something may result from it. But to allow the matter to go on as it is now, nothing else but ruin will be the result. This not only applies to whitefish, but to every other kind of fish A mesh of an inch or two inches will take almost anything in the way of fish, and when you legislate in favour of whitefish you legislate in favour of every other fish which is valuable as a table fish or for commercial purposes.

Now, as to artificial propagation. I may be said to be one of the fathers of it on this continent, but I have never gone so far or been so foolish as to make a remark that by this means we are going to overcome nature. I have always held that artificial breeding was only a supplemental aid to nature. To say that it is going to outdo nature, and that we can use artifice and allow man to destroy as he wishes, is a fallacy. I have never held that view. But let us have the size of meshes for your nets regulated on the American side of our lakes and the Canadian side, and I think there is a chance of, to a certain extent, recuperating this wealth which is now nearly gone. Therefore I think it behooves an intelligent gathering like this to come to a conclusion, and prepare for their proper authorities reports showing the necessity of having a description of net that may be used which would not destroy the immature fish, and it further behooves them to use all the influence they can to obtain a proper close season and see that the laws in this regard are properly enforced.

The CHAIRMAN.—Gentlemen of the Conference: The matter is open for your discussion, and we will be very glad to hear from any of you.

Mr. HUNTINGTON.—I would like to have Mr. Wilmot explain their system, and to what extent they are protecting the whitefish, and also their laws as to the size of the mesh.

Mr. WILMOT.—The close season of Canada at the present time, which has been in force for a number of years, is the month of November. There was a change a few years ago to the first ten days of November, and they were set aside as the close season, but that was a mistake. It did not cover a sufficient period of time, and they have extended the time now to the whole month of November, because in doing that it takes in the whole of the breeding season of whitefish. But the difficulty has been that in many instances political influence has been such that a few individuals in a locality will club together and say, "That close season does not satisfy us, and we will apply to the gentleman who represents our constituency to have it set aside for a time," or something in that way. We have found the greatest difficulty runs in that line. Take the Detroit river, for instance. It is the international boundary, and it is a narrow stream, but the whitefish have become almost exterminated simply because it was a resort for the whitefish of Lake Erie to come and cast their eggs and reproduce their young. We in Canada always had a close season for whitefish, but on the American side they have not had a close season, and consequently the Government of Canada has been importuned from time to time to do away with the close season as far as the Detroit river is concerned, and those who have advocated that question gained their point in a measure, so that in many cases the close season of the Detroit River has been set aside for years to gratify the greed of the fishermen on the Canadian side. The consequence has been that by excessive fishing on the part of the people on the American side, with the aid of the Canadians on their side, the Detroit River, once famous for whitefish, has become almost depleted. It is very difficult now to get enough fish to supply the hatcheries with eggs from the Detroit River, while some eighteen years ago, and in one afternoon, I have gotten all the eggs we wanted for our hatcheries.

Mr. HUNTINGTON.—I will state that what I desired was that you should give us the matter as it stands to-day, what protection you are affording the whitefish on the lakes. In other words, what are the laws affecting the whitefish to-day?

Mr. WILMOT.—The laws of the present day in Canada are that the month of November is designated as a close season, but, unfortunately, in Canada, as in every other country, these laws are overrun, and they still continue to catch fish in certain localities; but we are under the impression that if the authorities on the United States side will join us, we can carry it out to much greater perfection.

Mr. HUNTINGTON.—Have you any regulations in regard to the mesh of the net?

Mr. WILMOT.—It is the wish of the Dominion of Canada to establish laws for the regulation of the pound net. The regulation was passed last year, and immediately afterward opposition was brought to bear by the fishermen, and it was left in abeyance and put over for a short time until an investigation should be made by a committee or by a deputation which consisted of myself and my friends here, and we have gone around the lakes and obtained all the information we can, and have come to the conclusion that the pound-net of the present description and mesh, viz., an inch mesh, is one of the most

destructive engines in existence. The pound-net, with a proper regulation of mesh, might be perhaps the best engine for catching fish.

Mr. HUNTINGTON.—What kind of net would you recommend?

Mr. WILMOT.—I would recommend the pound-net as being superior to any other if regulated with a proper description of mesh.

Mr. HUNTINGTON.—The question I ask is what mesh?

Mr. WILMOT.—Nothing less than four or four and a half inches.

The SECRETARY.—Four and a half inches extension?

Mr. WILMOT.—Four and a half inch extension, or five inches. We have found that nearly all the whitefish caught in Lake Superior, Lake Huron and Lake Erie are caught in gill-nets with a mesh of four and a half to five inches and the fishermen seem to be satisfied with that, but when you bring it down to a inch square mesh, or two-inch extension mesh in the pound-net, you catch everything,—immature fish, young, old and everything.

Mr. HUNTINGTON.—With a four and a half inch mesh how would you catch herring?

Mr. WILMOT.—You might as well say, if you got an inch mesh or an inch and a half square for catching whitefish or any other kind of fish, what would you do with regard to catching small herring? It is simply this, if you wish to preserve other kinds of fish than the whitefish, then you must establish a net that little fish will be caught in, otherwise they will be lost as they have in Lake Ontario and as they are going in Lake Huron. The whitefish on the Canadian side are protected by the month of November as a close season, and so far as is possible the law is carried out, but we all know perfectly well that much illegal fishing is carried on in places on the various lakes, but the close season of the month of November is kept for whitefish in Canada, and as you know we are meeting with the greatest difficulty in the world to carry out our laws. Our fishermen say that their neighbours on the opposite side of the lakes have no close season for whitefish, and you enforce the close season with us. Yet, when you go around and make an investigation as my two friends and myself have been doing, for the last six weeks, you will understand the situation. We find they all come up and say that a close season is most advisable, but we would like you to make the Americans have a close season also. This, of course, we cannot do, but I hope from the remarks that will follow this evening, that the gentlemen who represent the various states bordering on the lakes, with Canada, will see the propriety of having a close season for whitefish, and that it is thoroughly carried out.

The CHAIRMAN.—As I understand, yon prohibit all netting that month?

Mr. WILMOT.—We prohibit fishing of all kinds for salmon, trout or whitefish, and herring. They are all of the same family and they all spawn about the same time.

Mr. KEYES.—I would like to ask if there is a law in Canada protecting the sturgeon and that kind of fish?

Mr. WILMOT.—Yes, we have a law which protects our spring spawning fish, taking in particularly bass and pike, and maskinongé and others considered of commercial value. We have a law in Canada which takes in the close season of the month of November to cover the salmon-trout, the whitefish and the herring.

The CHAIRMAN.—We have with us a number of fishermen, and we would be very glad to hear from them on this subject.

Mr. KEYES, of Ohio.—Regarding this matter of a close season I have certainly some convictions. The difficulty along our part of the line of Lake Erie, which we have to encounter, is that the time that you can take these fishes best for the market is in the month of November, and in no other month to speak of can you take any whitefish in the head of Lake Erie. It is true that the head of Lake Erie is the natural spawning ground probably for the whitefish, but if you do not take them in the fall with pound-nets and other appliances in the head of Lake Erie, they must then take them with gill-nets. But in the head of Lake Erie is where they catch them, and even now, in the depleted condition of Lake Erie, they catch them in certain quantities in the spring. Of course whitefish have largely decreased, but there were more whitefish taken this fall in Lake Erie than have been taken for a number of years. Probably this may be due to whitefish propagation, but I think it more largely due to the fact that it has ceased to be profitable to fish with gill-nets, and consequently the only whitefish that are taken

to speak of are those on the spawning grounds that come to the head of Lake Erie in the fall and are taken in the pounds, except a few taken with gill nets at the head of Lake Erie. The law of the state of Ohio is that no gill or pound-net can be set upon a reef in the spawning season, and it names the time, but these gill-nets that catch the whitefish on the head of Lake Erie are always on the reefs.

The CHAIRMAN.—What is that time?

Mr. KEYES.—It is at any time; no gill-net or pound-net can be placed upon a reef in the waters of Ohio at any season of the year. And there is where all the gill-net whitefish are taken, upon the reefs. With the pound-net, of course, it is the fish that comes to it, it cannot go after a fish. It is a stationary net and the leaders and the heart are all from six to seven-inch mesh in size.

The SECRETARY.—How is the pot?

Mr. KEYES.—That is usually two inches.

The SECRETARY.—Two-inch extension?

Mr. KEYES.—One-inch bar; we call it two-inch mesh.

The CHAIRMAN.—What part of the net do you say is six or seven inches?

Mr. KEYES.—The leader and the heart. The leader of the net is the part the fish travel along, say 80 or 90 rods in length. In former times they used to fish the pots, so-called, with meshes as high as three and a quarter or three and a half inches, but it killed so many fishes that way that it was almost impossible to raise the nets, and it would destroy them in a couple of seasons. It is difficult to say as to the size of the mesh. Of course, you might get it big enough so that even a sturgeon would go through, but you will always strike a size which will gill a certain proportion, and of course they die and are utterly useless as a commercial commodity. They are, in my opinion, not fit to eat. When a fish is drowned by reason of being gilled in a net, there is no question that almost instantly that fish becomes in a measure decomposed. I am referring now to the dead fish only that are in a net, whether it is a gill-net or a pound-net, and no one ever saw a fish that came out of the water dead that was not bloated to a certain extent, and of course no one will say that a bloated fish is a good fish to eat.

The SECRETARY.—That is a very strong argument against gill-nets.

Mr. KEYES.—I am very much opposed to the gill-net system, but I am not saying anything about it. I think that it is wrong to fish with it under any circumstances at any time. I do not think a net should be so set that a fish can struggle and struggle and struggle until it dies from exhaustion and exertion. I do not think that it is a proper way to kill an animal for food—any more than that the laws of any state or of Canada should permit the strangling of cattle and then have them put on the market. If you had an animal that was strangled in the crib and hung there until it died, you might, if you did not have a good honest conscience say, I will sell this to my neighbour, I will not eat it. It might not kill your neighbour, of course, but it would not be food you would put on your own table.

Now, the close season question is a question of vital interest and importance. There is a close season already in the state of Ohio, which is from the 15th day of June until the 15th day of September. That of course is not in the spawning season of the whitefish, and that law was strictly enforced last year and pretty well enforced the year before. This fall a good many of the pound-net men who drove their pound stakes, hung on their leaders, and they never lifted their nets, mind you. Mr. Osborn and his brother had those men arrested and fined and they had to pay their fine; they never took the fish out of the net. But I never heard of a gill-net man being arrested for his work, and they are always fishing on the reefs.

Now, as to the big mesh of which Mr. Wilmot has spoken. If it was practical it would be a good idea, but to put a mesh of say four or four and a half inches, a large majority of the herring would go through that, and you could not catch them at all, and the greater majority of the big ones would certainly stick fast in the net. I agree with him most decidedly, and a committee has already been appointed in our section embracing the whole of the head of Lake Erie, Toledo, Sandusky and Cleveland, and we will get a law passed in the Legislature this winter, making it a penalty with a reasonably heavy fine attached for any fishermen who shall bring ashore from their nets any fish under size and unsuitable for the market, and also a penalty upon any man who

will sell them. Some of the fishermen say, we cannot sort them, but we put the question to them and (understand we all fish nets as well as handle fish on shore), "Suppose there was a penalty of $25 for the first offence and $50 for the second offence for bringing ashore a fish less than a certain size established by law, don't you suppose you could pick them out?" "Oh, yes if we had to, but it would take longer time." Of course, but let them take longer that is all.

There is no doubt that the destruction of the small fish is a grievous offence against the industry and ought to be stopped, and it can be stopped. There is no question but what in the pound-net system the small fish can be thrown overboard and allowed to go. Of course some may come in with some catch, there is no certainty to it. Now, take a pound-net. I speak of the pound-net for I have never fished with a gill-net and I hope I never will. The pound-net is set stationary, with poles, it cannot be moved. If the fish go to it and follow its leaders it takes them. A majority of the fish could go right through the leader. There is not a herring that will ever gill in a leader or heart. In the fall we have found a few that have gilled. Fish spawn all over the head of Lake Erie. I do not believe there is any place where they do not spawn when they get in the shallow water.

The headwaters of Lake Erie, commencing on a line about Vermilion, directly opposite the dummy light on Pelee Island Point, is what gill-net men call the reef. On this ridge, of late years, they have set their gill-nets. Now then the question arises, and it is a fair question for gill-net men and pound-net men and every other man connected with fisheries, whether the reduction in the catch of fish is so much owing to the amount of fish caught by the nets of all descriptions as it is owing to the amount of fish that are turned back from the natural spawning grounds and not allowed to deposit their eggs where nature requires it, and thus their spawn becomes less. Nature compels them to go to a certain place to lay their eggs, and if they cannot reach their spawning grounds, and if they are prevented by nets strung along there through Lake Erie and finally deposit their spawn wherever they happen to be, that spawn fails to reproduce—whether that accounts for the reduction in the fish or whether the quantity of your catch accounts for it is a question. I think and I believe it is the general opinion of nearly every practical fisherman who sees it, that it is much the greater reason that the fish are not productive by reason of the long string of gill-nets which prevents them from getting to the natural spawning beds of Lake Erie.

You take it just a little above Cleveland and you will find strings of pound-nets reaching out into the lake, eight, nine and ten miles from the shore, string after string until you get well up towards Sandusky Bay, and then beyond these pound-nets are strings of gill-nets reaching clear over into the Canada waters and whether there is a close season in Canada or not, they run their gill-nets clear over across to Pelee Island, and they do not make any bones about it. There is a wall of net stretching across Lake Erie, and I will ask how those fish can reach their spawning ground? I believe that if a law could be passed compelling fishermen to put overboard the small fish which are unsuitable for food and unfit for the market, that it would be a far greater benefit to the fishing industry of the great lakes than to have all the close seasons you could adopt. Now, there is no use of making a close season to shut out this article of food. You take the fishing of Ohio, and you take the month of November out of the fishing month, and you might just as well hang up your nets entirely on the American side, that is, on the headwaters. The month of November is the only time that it is possible to catch the fish, that is to fish for commerce, and I believe this meeting is more in the interest of commerce than it is of sport, because if it was a mere matter of catching fish with hook and line, it would not matter much to us one way or the other. It is a question of furnishing good food to the poorer class of people of this country as well as the rich.

You take the herring, which years ago was not considered of any value simply because the other fish were so cheap. When the whitefish became so high priced, the herring then went on the market, and it is greatly demanded in the big cities of the east. New York, Philadelphia, Baltimore and Washington consume at least two-thirds of all the herring that are taken in Lake Erie—that is of the fresh herring taken. They go on to the market against the salt water fish, strange as it may seem, and because it is so

cheap and supplies a cheap food and a good food, they are demar ded very much. There are a great many hundreds of thousands of dollars invested in fishing boats in Lake Erie and especially in the headwaters, and when I refer to the headwaters I mean from Cleveland up. These men interested have their plant, they have got their outfits, their boats and their docks and their nets and their vessels, and they see before them, unless something is done, a very near future when fishing will utterly cease in Lake Erie as it has ceased in nearly all of the great lakes; and the dealers and fishermen are ready to go hand in hand with anybody or with any set of men who will propose a scheme that will be practicable and give some hopes of reasonable success. But I very much doubt whether a law establishing a close season of November could be passed in the state of Ohio, and if it would be passed it would simply take that product entirely out of the market, because that is the month in which they are caught. They would simply go back to the lower end of the lake and be taken with other appliances in the spring.

Mr. OSBORNE.—With a two-inch mesh, could fishermen get clear of the small fish, throw them back?

Mr. KEYES.—The question of time does not enter into the consideration of this question at all. It will take a little longer of course to sort them out. All they have got to do is to handle these fish with their hands and throw the small ones overboard.

The CHAIRMAN.—I would like to know what is the object of taking the young fish in the net at all if you are going to put them overboard?

Mr. KEYES.—You cannot help yourself, the fish are all caught together and you have to pick them out just as they come, you cannot sift them out through a sieve.

The CHAIRMAN.—Why could you not regulate it as suggested here by the mesh of the pot?

Mr. KEYES.—The trouble is, you would gill so many fish. You would gill more fish that are of a suitable size for the market than you would save of the small fish that would run through. You will often catch minnows in a pound-net, but what is to hinder minnows running through? Many a minnow is caught, the fish get scared and the first thing they know they are in there with a pile of fish and the minnows themselves won't get through. No matter what the size of the mesh is, any practical fisherman will tell you at once that you would still get many of the small ones, because the fish do not go through. If they did, those fish need not follow these leaders. If it was the nature of the fish to run through every hole they could find, they would get through these leaders at all times.

The CHAIRMAN.—I was going to call your attention to that because we know, as a matter of fact, the size of the mesh of the leader and heart cuts no figure whatever.

Mr. KEYES.—It is just the same, that is, the fish is a very timid animal, and it does not take much to frighten him. At the same time he is a little curious, and so he follows this shadow, while he could just as well pass through if he wanted to, if he had any desire to go that way. He need not come around, but he prefers to go on. It is the same way in the pound, they swim round and round.

The SECRETARY.—Do you think if the pot has a small mesh the fish would be hurt less?

Mr. KEYES.—They do not hurt them at all. Take it when there is a heavy storm which lasts for two or three days, and you will find very few of the fish hurt.

Mr. POST.—I would like to inquire what the season of herring fishing on Lake Erie is?

Mr. KEYES.—They generally commence to catch them early and catch them all the time. You catch all summer. You may commence to fish in the latter part of September, but they do not usually get a good run of herring to amount to anything until the 20th of October.

Mr. POST.—It is pretty nearly over in the month of November?

Mr. KEYES.—We get the heaviest fishing usually in the month of November, and usually the best week's fishing along about Thanksgiving Day.

The SECRETARY.—At the same time you get these herring do you get whitefish in the pound?

Mr. KEYES.—We get whitefish all the time, but in limited quantities. Of course the great bulk of the whitefish taken in the head of Lake Erie are taken in the gill-nets upon the reefs.

Mr. POST.—I thought the herring spawning preceded that of the whitefish?

Mr. KEYES.—It does, but the whitefish come on about the same time, and the spawning season is the same. About the 1st of November we generally look for spawn in the boats when the boats come ashore.

The SECRETARY.—Some years ago there were not so many herring in Lake Erie as now?

Mr. KEYES.—The herring fishery has never been even. There probably never was a shorter season than this season for the last fifteen years. There probably were more herring taken from the waters of Lake Erie four years ago than had ever been taken before. That season the Sandusky freezers had 28 tons of herring frozen, and there was something like 30,000 or 40,000 barrels of salt herring. It was so all along the lakes. Before that there had been short seasons, but not anything like this season.

The SECRETARY.—Take an equal number of pounds of herring and whitefish, and what is the difference in the profit to the dealers?

Mr. KEYES.—Of course our business is all wholesale. The whitefish are about eight cents a pound. The average price for fresh herring is about two cents. I am speaking of this winter. Of course the herring are sold in the markets of Philadelphia, when they are plenty, at about $3 a barrel.

The SECRETARY.—If you were going to have one or the other, which would you prefer for your business?

Mr. KEYES.—The herring. In the first place, if you had as many whitefish as herring the markets of the country would not pay any more than three or four cents a pound, and I doubt even if they would take them then.

The SECRETARY.—If whitefish were plenty they would be that price, wouldn't they?

Mr. KEYES.—Certainly. The herring is sold largely as a smoked commodity. It is a regular business, and it is about the only fish treated in that way which is a success, except the sturgeon. That is one reason why it is becoming so popular in the last few years. It is only a few years ago that we had no freezers.

I want to get back to the question of a close season. As between Canada and the United States, it is a question of considerable depth. The whitefish does not frequent Canadian waters; it is not our experience as fishermen at all that it frequents the waters of Canada, especially this end of Lake Erie, as they do the other side. The spawning beds seem to be around there. If you shut off the month of November, and that is the spawning month, no doubt; you would destroy the whole commercial industry that has been built up on this side of the lake, and of course you understand that would be quite a task to perform. But if something can be arrived at that will not destroy this fishing industry, but will tend to build it up and preserve the fishing, I do not think there is a fisherman that is not willing to do all in his power to help it along.

The CHAIRMAN.—During how many months of the year is fishing prosecuted in Lake Erie?

Mr. KEYES.—The whole year round. In Pennsylvania there is no law, and in Ohio waters, so far as it is possible for the commissioners to enforce the law, I think they are enforcing it. There is no fishing between the 15th of June and the 15th of September.

The SECRETARY.—Why were those dates fixed; what was accomplished by it?

Mr. KEYES.—Largely fixed from the fact that the fish taken at that time is not really a good article of food. It was not for the protection of the fish particularly, except that it does give them three or four months' rest.

The CHAIRMAN.—Do you think it would be an unjust thing to give the fish a rest not only for Lake Erie but for all the lakes, for one month in the year?

Mr. KEYES.—It would depend on what month you select.

The CHAIRMAN.—The spawning month.

Mr. KEYES.—Then you select the only month in the year in which that fish can be taken to any advantage, and there would be no good grow out of the law because you would not get the fish in that neighbourhood.

The CHAIRMAN.—What are they doing the other 11 months in the year in Lake Erie?

Mr. KEYES.—When they can get out in the winter with their gill-nets they fish all winter. They do not catch to any great extent, but they are fishing now in Lake Erie just as well as they were last fall. They fish there all the time in deep water until they cannot get their tugs out because of the ice, and whether a certain close season would be a good thing I do not know. I do not know but a close season in the winter would certainly be a benefit to the fish as well as in the summer, but if you would make a close season at a time when they can be best caught for the market, which is in the month of November——

The CHAIRMAN.—Isn't that because they are running on to the spawning beds, and you know those are well defined grounds, and you can catch them easier at that time?

Mr. KEYES.—The whole head of the lake, from Pelee Island and the Dummy Light to Vermilion, is one continual spawning ground. I claim that there is not one fish in five hundred that comes up through those waters that ever gets into the pound net—I doubt it very much. If even half of them are caught and they give time for the other half to spawn, you will have all the spawn you want. It is a question in my mind whether you are going to establish a rule that will allow those fish to get on the spawning ground, because I think it is going to be difficult to get a law through the Legislature of Ohio or Michigan which will say you cannot fish in these waters at a time and the only time when they can be taken, as a commodity, in November.

The SECRETARY.—Isn't it generally understood that when fish are at their season of reproduction they are not fit for food?

Mr. KEYES.—They are taken and considered the very best. You take the case of shad. A roe shad brings just twice the price of a buck shad.

The CHAIRMAN.—Is that on account of the roe?

Mr. KEYES.—They want to get the eggs, I suppose.

The CHAIRMAN.—That is what I supposed.

Mr. KEYES.—The herring spawns altogether in the fall. In the spring they are a much poorer fish than in the fall. The herring taken along in June and July are a much better fish on the Canada side; that is the only time of year you can catch them; at that time of year they run there——

Mr. WILMOT.—For protection they come there. (Laughter.)

Mr. KEYES.—They catch them in large quantities at that time.

The SECRETARY.—They do not even get the protection. You follow them over and catch them.

Mr. KEYES.—As far as Canadian waters are concerned, these fish are taken in large quantities in July and August.

Dr. PARKER.—Returning to the size of the mesh. You said, I think, that the fish seldom gill in the leaders, or heart. You find but very little trouble in that.

Mr. KEYES.—Yes.

Dr. PARKER.—When do they gill in the pound?

Mr. KEYES.—They do not gill in the pound because the mesh is so small they cannot gill. The herring is the worst of all fish to gill, and in the season they will just line a pound right round; it will be perfectly white all round; in nearly every mesh there will be a herring.

Dr. PARKER.—They stay there until you come to haul them?

Mr. KEYES.—Oh, yes, you find them before, but it is worse when they crowd them. As you crowd them they rush to get out.

Dr. PARKER.—The greatest amount of gilling is done at the time of the haul?

Mr. KEYES.—Well, before you get the nets pulled out.

Dr. PARKER.—The greatest trouble is to get them out of there and save them for the market.

Mr. KEYES.—The greatest trouble is they gill all the time from the time the fishing is commenced.

Mr. OSBORN.—We find there were many tons of small fish taken out of Sandusky Bay and sold to the phosphate factories at 65 cents for 400 pounds.

Mr. Keyes.—There is nobody recognizes that fact any more than the dealers in Sandusky. They are all fishermen, and they are only too ready to comply with a law that would prevent that, if it can be passed.

Mr. Osborn.—What would be the penalty?

Mr. Keyes.—I would put it so big that the second offence would be seldom heard of. I would not make the fine one cent less than $25 a fish. All of our dealers are unanimously in favour of getting a law of that kind through the Legislature. That certainly would be a very strong step in the right direction, but that we can succeed in getting a close season for the month of November I very much doubt, or that you would even get a respectful hearing before the Fish and Game Commission of the States, because of the men interested.

E. W. Gould, Commissioner Sea and Shore Fisheries of Maine:—Mr. Chairman and gentlemen of the conference: In the experience of the Maine Commission of Sea and Shore Fisheries there can only be one correct answer given to this question if the end in view is preservation and restoration of our fish. A broader view may with propriety be taken of the subject, and include all edible fish. In Maine waters the whitefish is not a prominent one, but the salmon most abound. Nature has insisted upon a uniformity of laws governing all fish life, and has instituted a most wonderful harmony in apportioning to each kind of fish its peculiar characteristics, habits, localities, time for reproducing its kind, &c., so that when nature establishes a season during which one species ought to be fully protected another of somewhat different habits is in its prime condition, thus wisely ordaining such a condition of affairs as will keep up throughout the entire year the fish food supply of the people. To assist nature in keeping up the supply the intelligence of man comes in as an auxiliary, utilizing the forces and existing conditions of nature to artificially propagate certain fish to replenish the waters, and this, to a certain extent, has succeeded very nicely, but man has never been able to approximate nature in this work, and of necessity, while acting as assistant, must devise some different plan to further increase the young fish.

The fish and game of the American continent at present under the control of each individual state have been held by the State Governments as a sacred trust for the people from time immemorial; and now the thinking portion of the people are slowly awakening to the fact that the danger line of extinction has been passed in some instances, and being rapidly approached in nearly all others. They view with great apprehension the slaughter of the finny tribes going on, and the consequent alarming diminution in their numbers, while with the convening of our different Legislatures petitions come pouring in from all sections asking special laws to be enacted for the protection from the poacher or pot fisherman certain local or private lands; also praying for a more rigid enforcement of the existing laws regulating the taking of fish and game.

The question might with propriety be asked to "*what cause is assigned this great depletion of our fisheries?*"

To those who have made a study of fish life and its underlying conditions the answer is a very simple and exceedingly plain one—simply exhaustive fishing and at improper seasons. But here in answering the question enters a disturbing element—the intensely interested wealthy parties who, through their engines of destruction, have enriched themselves at the expense of the people, and who now are aware that the laity are becoming educated up to what is theirs by right, and that at no far distant day their revenue from this source will be curtailed. These men appear in conjunction with the Legislatures, and, sending their most suasive membe s, answer this question, without exception prefacing their remarks by first giving a glowing account of the immense industry they represent, the large number of men they employ, and the large amount of general good that is the result of their operations. Then is paraded their intimate knowledge of fish life and the natural conditions which tend to the perpetuation of the species, and in the majority of cases, if the time of the committee or meeting where this question comes up is limited, they enter exhaustively into the general subject, and while arranging themselves to all appearance on the side of intelligent restriction, oppose strenuously any restrictive measures that would be effective, confining themselves to some minor restriction, such as the liberation of fish below a given weight or size, or mesh of net, by this means hoping to throw the burden of

expense on the fishermen and the state to see these measures enforced, and to eventually create a prejudice against restriction by reason of these wardships.

Should this fail them, then they, as a last resort, earnestly advocate investigation at the expense of the state and experiments as to the better means of protection.

These, gentlemen, without attempting to weary you, are a few of the subterfuges employed by these interests.

The more intelligent fishermen promptly range themselves on the side of protection and preservation, foreseeing that without some means being employed to prevent this wanton destruction the business will not survive itself.

From these facts among many others, and from a practical and substantial benefit arising from it, the Commission of Sea and Shore Fisheries of Maine emphatically advocates protection for all edible fish during their season for spawning, and in the absence of an intimate knowledge of the requirements, to protect any fish in a given instance, would recommend such restrictive legislation on that subject as will leave no doubt as to its efficacy until such investigation can be made as will enable intelligent suggestions to be made to the legislatures by the commissioners.

The CHAIRMAN.—Gentlemen, it is getting somewhat late, and I fancy there is very much more to be said upon the matter. It does seem to me that concessions must be made by the fishermen as well as by the people. Because of the physical characteristics of a given water the spawning beds may lie in one end of the water or in the other, and it does seem to me as though some sort of an opportunity ought to be given the fish to spawn when they run on these spawning beds. I deem it unfortunate because of the location of the fishermen, as they would be injured more in Lake Erie on the western reefs than in the east end of the lake, because there are no spawning beds there. If we are going to do anything except exterminate the fish entirely, we must come to some sort of an understanding, not prejudicing the rights of one party nor the other, and I would suggest the propriety of not attempting by the suggestion to in any way shut off the debate, because we want to consider the subject fairly and candidly. I would suggest the app intment of a committee to confer upon this matter and report at to-morrow's meeting.

Mr. WILMOT.—I hardly think the end will be obtained so thoroughly in that way as by an open discussion. The reason why I say that is this, that some of us may not be able to remain during the continuance of your session, and as this is of vital importance to Canada and the United States, I think an open discussion of the matter will be much better than to leave it to a committee to bring in a certain report. The object of this meeting, I understand, is to take up the matter as a whole. If the views are entertained which our friend, Mr. Keyes, has expressed, it will be useless for us to remain here, of course, but as I understand the matter, the meeting is for the purpose of preserving and husbanding the fisheries of the country. I think an open discussion of the matter will be well, and much better than leaving it to a committee to make a report upon. This meeting has been called for the purpose of discussing the merits of the preservation of the fisheries of the lakes in this country and in Canada. We have a close season on our side of the water. The gentleman who has just sat down (Mr. Keyes) says that if you have a close season for the month of November you might just as well close up his business. In Lake Winnipeg, where they have the best whitefishing in the world, they never fish beyond the 15th of October ; they never desire to fish. They say their best fishing is before that, whereas in Lake Erie, this gentleman tells us, they could not fish at all if they did not fish in the month of November. I take that as an incorrect statement. I think it would be much better to have an open discussion.

Mr. HAMPTON.—I think the gentleman is entirely right. But while we all concede the necessity of an open discussion, we must recognize the fact, that if we have nothing but discussion, we will not accomplish anything. As I understand, the object of the meeting is to take some steps that will result in something beneficial. The idea of the representative from the Dominion (Mr. Wilmot) is to preserve the fish not only for the people, but for the fishermen of the country. I believe we are all united in regard to this, and the only difficulty is a disagreement as to the manner of doing it.

Mr. KEYES.—Let me say this one word, that Mr. Wilmot entirely misunderstands me if he thinks for a moment that I would stand on this floor and advocate the de-

struction of the fish of Lake Erie or any other, except in the catching of the fish, which has always been considered a legitimate business, and the catching of them of course destroys them.

The CHAIRMAN.—I am inclined to think that we ought to have plenty of time for the discussion of this subject, and I think the best way is to have an evening session.

Mr. POST.—I am myself very much in favour of a committee, and I think we are entitled to the appointment of a committee after further discussion. I would like to inquire if it is the sense of the conference that we have an evening session? I will make that motion, that we do have an evening session, commencing at eight o'clock.

The motion was carried and the conference took a recess until 8 p.m.

EVENING SESSION, Dec. 20th, 1892, 8 p.m.

The CHAIRMAN.—The conference will please come to order. When the conference took its recess it had under consideration topic No. 2, and that topic is still open for discussion.

Dr. SWEENY.—Before the discussion opens, while I have not the slightest idea of restricting anybody, I would like every gentleman to have the courage of his convictions and say just what he thinks on this subject. I would ask that the conference concur in this motion and that the speeches shall not exceed ten minutes in length, so that every one will have a chance to say something, and I will make the motion that speeches be limited to ten minutes.

This motion was supported and carried.

Mr. OSBORN.—What would be the objection to putting both of these topics on for discussion, two and three are largely alike as to a good many parts, and when the committee of which we talked is appointed, it would cover the two topics without any more work than covering one.

The CHAIRMAN.—We have the whole of to-morrow before us for the consideration of these other topics, and we do not want to be idle all the day. If there is any gentleman here who desires to express himself on this third topic by reason of being called away, I think that the conference will be very glad to listen to him. I think the consideration of topic No. 3 had better be postponed until to-morrow unless some emergency as that arises. I understand, Mr. Osborn, that you expected to go away to-morrow, but you will be here in the morning anyway. The Chair is now ready to listen to further discussion. Dr. Sweeny, the conference has not had the pleasure of hearing from you on this subject, and I presume they would be delighted to hear from you.

Dr. SWEENY.—Mr. Chairman—I have listened to our friend Mr. Keyes on this subject, to his very interesting and ingenious argument, but I must say that he has not convinced me, and I am afraid that the more I think on it the less I am likely to be convinced. I know from the experience of the protection given by the Canadian authorities to whitefish on Lake Superior that it is most beneficent. The difference between our fishing on the north shore of Lake Superior, in our waters and theirs, is most marked. When you get within 35 or 30 miles of the Canadian line the fishing is fairly good, and when you cross it it is excellent compared to what it is on our side. The greater bulk of the whitefish are obtained from Port Arthur now, and the fishermen of Lake Superior, on the north shore, are so well satisfied that it is the right thing to do that they have expressed to me their willingness, without any solicitation on our part, that we should join with the Canadians in having the same close season. They say if there is such a law so that this man cannot fish and that man cannot fish, we are willing to abide by it, and we know it is the best thing that can be done. The difference in the fishing now from what it was a few years ago, say 20 or 25 years ago, is very marked. We used to get whitefish all the way up to Duluth; all along the Minnesota shore and the Wisconsin shore, it was all good white fishing, but now there are scarcely any whitefish taken until you get towards Bayfield. Very few are taken on the Wisconsin shore, none along Minnesota point; and this season, for the first time in fifteen years, or a little less than that, the fishermen are beginning to make pretty good catches along the north shore of small

whitefish, which they attribute to the planting of fish at the head of the lake. It is their opinion that a close season for whitefish, the same as the Canadians have, from 1st November to 1st December, will be the salvation of the fishing. If they are allowed to go on as they have been the fishing will be exterminated. They are catching some fish of our plant a little larger than herring and about the size of herring, and from that to fish 15 and 16 inches long, and they are so well satisfied that the protection of a close season is the salvation of the fishing that they assured me that if such a law is passed they would be willing and glad to abide by it. I feel myself that this is the right thing to do, and I feel that our position that we should protect the fish in the spawning season is right. Notwithstanding the arguments that I have heard, not only to-day but for years past, I am sure that the right position is to maintain a close season.

In regard to our fisheries in Lake Superior, I think our legislature will pass such a law, but whether that is the wiser thing to do further south, should be well considered, I think thoroughly considered before a concession is made to abandon any attempt at having a close season. It seems to me that is the surest and safest way to conserve all fisheries.

Mr. KEYES.—I would like to ask the doctor a question or two before he sits down. Do you, in your opinion, think that a close season in November will prevent the depletion of the fish, and if you do, why would it not be better to not catch them at all?

Dr. SWEENY.—Well, I think if the fishermen are satisfied they can get along without catching them, that that would be a surer way yet to increase the supply of whitefish.

Mr. KEYES.—That is exactly the argument I make.

Dr. SWEENY.—I know, but I hardly think that is a fair argument. You know just as well as I do that if protected they will increase, but it is this destructive and persistent fishing in season and out of season that has destroyed the abundance of fish.

Mr. KEYES.—That is true.

Dr. SWEENY.—Naturally there is a balance established in all animal life, either in the water or in the air, and if a disturbing element—and in this case the fisherman is the disturbing element—comes in you will destroy that balance, but if that element is taken away the natural balance will be restored and there will be abundance.

Mr. KEYES.—I would like to ask the doctor another question. Referring to the reproduction of the fish, what difference does it make whether you catch the fish two days before the law says not to, and just as the fish are getting ready to spawn, or catch him the day he has begun to spawn? You have destroyed the eggs in the fish just the same.

Dr. SWEENY.—The difference is this: if you stop catching fish there will be all those you do not catch left to reproduce.

Mr. KEYES.—That is true.

Dr. SWEENY.—That is just the difference—there is no more or less.

Mr. KEYES.—There is not any difference if you catch a she fish; whether you catch it in season or not you destroy just so much reproduction.

Dr. SWENNY.—It is a question of number, whether you want part of the breeders left or not.

Mr. KEYES.—Is it not a settled fact that catching the fish in the spawning season is the occasion of their decrease?

Dr. SWEENY.—I think, undoubtedly, it is. If you kill a setting hen before she hatches her eggs you destroy the brood.

Mr. KEYES.—Don't you kill it just as much if you kill her before she is ready to hatch. If you catch a she fish with the eggs in her just a week before she is ready to spawn, or before the close season commences, you have destroyed that many fish just the same as if you had caught her when she is ready to spawn.

Dr. SWEENY.—The difference is that in one case you stop killing and in the other you keep on.

Mr. KEYES.—I will admit that argument; certainly if you stop killing there will be more left.

Dr. SWEENY.—A farmer does not eat all his seed wheat, he retains enough for the next crop, and that is simply what we are asking the fishermen to do, to save enough seed to insure another crop. If you kill the gravid fish, the race is extinct.

Mr. KEYES.—The point I was trying to make is this : in Lake Superior you fish the entire season from the opening of navigation to the close, do you not ?

Dr. SWEENY.—When they can.

Mr. KEYES.—Not when they can, but they do. They catch just as many fish in October or September as they do in November.

Dr. SWEENY.—Yes.

Mr. KEYES.—They catch them in July or August as well as in November.

Dr. SWEENY.—They catch all they can.

Mr. KEYES.—In no other lake is that so.

Dr. SWEENY.—I understood you to say they fished all the year around in Lake Erie.

Mr. KEYES.—They do not catch whitefish, except in a few gill-nets, in Lake Erie.

The CHAIRMAN.—I think the ten minutes is up.

Mr. POST.—Mr. Chairman and Gentlemen—It has occurred to me that there is room here for a compromise. Now of course, I agree with a good deal that Mr. Keyes has said with reference to the interest of the fishermen. A fish, of course, is good for nothing until he is caught, and the purpose of raising fish is to raise them for food. The matter of limitation should be such a reasonable limitation that it will insure the natural increase of the fish as well as protect the work of artificial propagation. Mr. Keyes has said, and I believe it is a fact, that the run of herring precedes a little the run of whitefish or the heaviest run of whitefish, and it occurs to me that if a compromise were made upon a close season and the fishing during the spawning season was not entirely stopped it might be best. Suppose the close season commenced on the 15th of November instead of the 1st. The heavy run of the herring is by that time practically over, so that it would not interfere with the herring fishing, and would result in great benefit to the whitefish.

I have no doubt it is true that the conditions upon the upper end of Lake Erie are somewhat different from what they are on Lake Superior. Nature affords a large protection to spawning fish in Lake Superior. The storms that prevail there hoist the pound-nets out before the spawning season is over, and I know it is a fact and has been so for many years there, that it is very difficult for the people engaged in whitefish hatching to get eggs enough there on account of the storms. It occurs to me that if a close season in such waters as Lake Michigan, and possibly others of the same character, were divided to make a compromise between the fishermen and the people on this subject, we would get something that both parties could act under, and that would be a compromise that would perhaps get the support of the fishermen.

I appreciate what probably we all do, that ordinarily it is best to get something which can be enforced than to get an ideal law which is never enforced. It will be very difficult, as Mr. Keyes has said, to pass any law in any of these legislatures of the states that border on these great lakes where the fishing industry is as large as it is, that would not be extremely detrimental to their interest. If you undertake to do more than you can accomplish, you are wasting your efforts. Now, it is very desirable, particularly for us in Michigan, and I presume it is so with the other states where large fishing industries obtain, to get an enforcement of a protective law that will have the support of the better class of fishermen. Now, it seems to me it is better to attain to something which shall answer the purpose to a limited extent than to aim to get an ideal law which will not have the support of public opinion, and of such public opinion as the fishermen themselves will be able to aid in forming, and it has occurred to me that possibly a close season which will extend from the 15th of November on, would be a reasonable protection, even in Lake Erie, to the whitefish, and would not interfere seriously with the herring fishing.

The other suggestions that were made by Mr. Keyes with reference to a law which will prohibit the taking or having in possession or transporting or of dealers holding for sale fish beneath a given size, which shall be agreed upon—and I think we shall have some difficulty even in agreeing upon that—will be a great aid in obtaining a law which will meet the support of the fishermen. There is no doubt in my mind from the experience I have had with the better class of fishermen and those whose support would be more valuable, that they are going to see this matter somewhat in the light we look at it, and they appreciate the necessity for something being done in the way of prevention of destructive fishing. Many of the other suggestions which Mr. Keyes made might

neet approbation—the limit to the extent from the shore that fishing should be carried on, leaving an open passageway so that the fish could get to their spawning grounds, but it seems to me that something in the nature of a compromise on this basis might, perhaps, be reached by a conference committee.

Mr. BOWMAN.—Mr. Chairman and Gentlemen—The representatives of the state of New York are, perhaps, not largely interested in this question. Our lake is separated from your lakes by a border which makes it very different. We are propagating whitefish now in our state, and will hatch fully 15,000,000 this year, but as a general proposition in fish and game—and you see it illustrated perhaps better in game than you do in fish—unless there is a close season, and unless they are protected in that close and breeding season, they are soon entirely destroyed, I do not care what it is. There is no artificial propagation of game, and the only thing that is left for the game in this part of the country to-day is simply to protect them in the breeding season. It seems to me as though that general proposition must be true in everything, must be so with fish as it is with game or anything of the animal kind, I care not what.

Now, it seems to me, as has been suggested, that we should have some protection. I don't know whether the gentlemen from the state of Ohio or the fishermen would be willing to see the entire business destroyed. If they cannot take them in November they cannot take them at all they say, but I believe that the fish should be protected and that they would increase and the fishermen would take more if they were. I think it is for their interest certainly as much as it is for anybody's to do that which will produce the most fish and give them the greatest gain. That is the object we all want to accomplish. Now, if it is necessary, we should make some compromise, for it seems to me very essential that there should be something done to allow these fish to reach their spawning grounds.

Our Canadian friend says, I believe, they reproduce themselves and that artificial propagation is rather an aid than the first cause, and it seems to me as though we ought to reach some compromise which will enable these fish to reach the spawning grounds and cast their spawn before being taken.

We have the same difficulty in the Hudson River. The shad run up the Hudson River to spawn, they are there at no other season, we get them in the spring. We have this same difficulty with the fishermen, and we had a fight of one or two years until we could get one or two days of open season whereby the shad could reach the fresh water at the upper part of the Hudson where we could get enough ripe shad to take the spawn from. We contended for a compromise between the fishermen and the people, and if they had not seen the necessity of allowing the ripe fish to get from the sea to the fresh water when they were ready to spawn, we would not have had any. We used to catch them at Troy, but now you see very few as high as Albany. Our stations are all located below Albany, and we have had great difficulty until we had a day or two open. We thought it was not the proper thing for fishermen to fish on Sunday, so we went to the Legislature on that ground, putting it on the moral ground that the fish should have Sunday, as the fishermen needed it, and so they stop fishing every Saturday night at 12 o'clock until Sunday night at 12 o'clock, and that gives the fish an opportunity to go up and get on the spawning ground where they are ready to spawn.

Take the Connecticut River; you hardly see a Connecticut shad in the market. They have been entirely fished out and they have never been reproduced. That river runs through two or three different states and one state is selfish about it and says, "I will not pay the expenses of a hatchery for the benefit of some other state," and you hardly hear of a Connecticut shad in the market. It may be from some other cause and some other reason, but these facts are true, and it seems to me that it is to the interest of fishermen as well as for everybody, that we should have some kind of a close season, and give these fish an opportunity tp cast their spawn when they are ready to do it. They will not cast it at any other season; they will spawn in the fall when they are ripe, and at that time it seems to me they should certainly have a part of the spawning season, and the more the better, to get onto the spawning ground and cast their spawn and reproduce their kind.

I am very glad to see the fishermen take an interest in this matter. I am very glad for the suggestions made of throwing the young fish back; I think it will be of

great benefit and I think it will increase the supply very much. It is a very judicious thing also to leave the channel open so that they can get up to the spawning ground as suggested, and if we can reach some compromise—and there seems to be but very little difficulty except with the gentlemen from Ohio—that will be satisfactory to them and give these fish some opportunity to cast their spawn upon their spawning grounds, I believe in the end it will be a great deal better for the fishermen. Of course the people cannot get these fish unless they are caught, but what is for the interest of the people is for the interest of the fishermen. We are all agreed upon one thing, that we should hatch and protect and increase the supply of fish as much as possible, the greater the quantity the better everybody will be pleased, and we must not all be too selfish, we must not want it all ourselves, we should be willing to give and take, and if we cannot get a whole loaf let us take a half loaf, and let us make a compromise between the fishermen and the people, as has been suggested, say the 15th of November, and to stop fishing after that. It seems to me that after discussing this matter properly we can reach a compromise that would be satisfactory and just to all concerned, and we could pass laws in these different states that would be uniform, and that thereafter you will certainly have a much better supply of fish than heretofore.

Dr. SWEENY.—If I am permitted to read a letter I would like to; it is in response to some inquiries from our vice-president.

The PRESIDENT.—I think you have the consent of the conference.

Dr. SWEENY.—There are some points in this that may be of interest. It is from Mr. Turner, a man largely interested in the fish trade. He says:—

"You ask a few points on the whitefish industry. We find that the supply is not equal to the demand, nor are there as many fish by half as there used to be a few years ago. I am not conversant with all the points on Lake Superior, but at Ashland, Bayfield and Duluth and vicinity it is immediately under my management. Would say Ashland Bay may be called the whitefish breeding ground, also at the end of Lake Superior, near Duluth, on the south shore and along Minnesota Point net fishing should be prohibited, as they use too small meshes and catch a great many small whitefish before they are of marketable size, and by this destruction prevent them from maturing. Would also suggest that Minnesota Point and the Wisconsin side of Lake Superior, near Duluth, and the whole of Ashland Bay be protected by a three-mile limit, and no nets should be set within three miles from the above shores, on the breeding grounds of the whitefish in that vicinity.

"We find that fishing has not been profitable for the last three or four years" (he might have said ten) "within 30 miles of Duluth. The growth of the cities of Superior and Duluth may possibly impregnate the water, and with the small mesh nets that have been heretofore used be the cause of this great scarcity. I regret very much not being able to be present, but Mr. Timberlake will explain that it is a physical impossibility for me to be there. We sincerely trust that in your deliberations something may be accomplished for the protection of this great industry."

I will state that Mr. Turner is very sick and has been so for some time, or he would have been at this meeting.

The PRESIDENT.—I will ask the Secretary to read a portion of the letter of Mr. Booth, who is largely interested in the fishing business, upon this point now under consideration.

The SECRETARY.—Mr. Booth says:—

"In reference to the small meshes of pound-nets and gill-nets which I think do more to destroy the fishing interest of the lakes than anything else, I do hope we may profit by the better observance of the laws in reference to the protection of fish and game enacted in Canada, or rather the enforcement of it. I should very much like to see a more cordial feeling existing between our country and Canada in reference to a uniformity of fish laws, and trust that from your deliberations much good may result.

I am sincerely yours,

A. BOOTH,

President of the A. Booth Packing Company."

The PRESIDENT.—Gentlemen, we have with us to-night a man who was connected for a number of years with the Michigan Fish Commission and who was instrumental in drafting the original law that set some restraint upon fishing. He gave the subject a very great deal of attention, and I know that he has the matter now just as closely at heart as he had at the time he was on the commission. I would ask Mr. John H. Bissell to give us an expression of his views upon this matter.

Mr. BISSELL.—Mr. Chairman and Gentlemen—Although for two years out of the harness, I have not lost any of my interest in the subject of the propagation and protection of fish and the extension of the fisheries. I listened the short time I was in this afternoon with a great deal of interest to what was being said about Lake Erie. My own studies on this subject led me a good while ago to the conclusion that the first thing we needed was a way of enforcing such laws as we could get, and in connection with the enforcement of the laws to give a careful study to the condition of the fisheries in the different waters of the great lakes.

Something has been said this evening about a uniformity of laws. It is possible you may get uniform laws for Ohio, Michigan, Wisconsin and Minnesota, bnt I doubt if the uniformity could go very far. The conditions of fishing in the different seasons in the different waters are different. Now, what the gentleman from Ohio said about the fisheries at the upper end of Lake Erie demonstrated to me that it would be unfair for the fishermen to make the same regulations for the fishing east of Cleveland that are established for the fishing in the west end of the lake—the upper end of the lake—if all fishermen are to have anything like a fair chance at the fishing.

While some of us know a good deal perhaps about fishing in certain localities, I am quite satisfied that none of us know enough about the varying conditions in all the waters of the great lakes to be able to sit down at a table and prepare what we would be satisfied was a satisfactory and just law, say, with reference to the sizes of the meshes of the nets, a law with reference to the time when fishing should be permitted, and possibly with reference to the size of the fish. With reference to the size of the fish probably we could get uniformity better than in any one particular. The state should pass such laws as they can get, not trying to get, as Mr. Post has said, ideal laws. Of course you cannot get perfect laws all in a hurry. If you could get a law that would regulate the size of the fish and at the same time a law that would regulate the meshes of the nets, with discretionary powers lodged in some intelligent officer, who would be under proper supervision, I think you would get the best results.

But before you could get a law that any one of us would be satisfied with, there must be a study of the conditions of the fisheries in the different waters. Take such a state as Michigan. A law that would be answerable for our Monroe coast of Lake Erie, I am satisfied would be entirely unsuited to the conditions about the Straits of Mackinaw and the south shore of Lake Superior. In order to get that information, officers who are enforcing laws for the states ought to be furnished with some means of acquiring and preserving useful and necessary knowledge on that subject. It is a pretty broad subject, and I am conscious that I am only touching on fragments of it here and there. It is a matter that I spent a good many winter evenings on when it was my duty to be studying such matters, and I can only, in a very fragmentary way, make suggestions here this evening. One of the most important that I can make is that each of the states should try to get wardens or other officers, it makes no difference what you call them, who would have some sort of discretion in permitting the use of nets of a small mesh at a time when it would not result in the killing of whitefish. Take, for instance, the upper end of Lake Erie. If fishing is permitted in November in those waters, it would destroy no small whitefish, it would hurt no small whitefish; there would be no small whitefish there to hurt. The thing that could possibly be accomplished is first to get the officers to enforce such laws as we have; second, to have those officers furnished by the state with means to acquire the knowledge that is necessary for the establishment of just, fair and reasonable regulations.

I should like to go over the subject of the regulations of the fisheries by way of licensing. I became satisfied from my examination of the subject that that is one of the things that ought to be kept in view all the time. The time has got to come when the industry of fishing will be licensed, and the time ought to come when the amount

of fees and revenue that would come from the licensing of the fishing in its proper regulations would defray not only the cost of enforcing the laws, but also the cost of such necessary propagation as the states found necessary to conduct.

Mr. HAMPTON.—Mr. Bissell has touched upon a question that lies more particularly within my field than that which has been under discussion. I would not of course assume to discuss the question of propagation of fish. That is out of my line, and all that I might say upon the matter which is really under discussion would be in the nature of a question.

It has been suggested to me by Michigan fishermen, and on account of my location at the headquarters of one of the principal fishing firms upon the lakes, I have had some opportunities of learning something about the matters you have talked about—it has been suggested that one of the best ways of accomplishing this object you are all aiming at, would be to prevent the setting of nets in a certain depth of water, following out as I understand it, somewhat the plan that is in vogue in Ohio, as stated by Mr. Keyes of that state. I believe that in the waters adjacent to our state (Michigan) that would be practical, because our lakes are such that you cannot wade across them without wetting your pants, but I do not know how that would be in Lake Erie, whether the same laws that would be applicable to Michigan would be applicable there or not. I would simply throw out that suggestion, that the gentlemen, in considering the resolution, would say whether or not the taking of fish upon their spawning beds could not be prevented by some provision in regard to the depth of water at which nets should be set, as well as having a close season.

Now, in regard to the matter suggested by Mr. Bissell, as to what should be the first thing done, I must differ slightly with him, and I speak from experience when I say that the first thing is not to get the officers to enforce the law, but to get the laws, or you cannot enforce them. With the laws as they are in Michigan, and I speak from experience, under the very best system of wardens, under the very best paid officers, it would be utterly impossible to enforce them. We had ostensibly laws regulating the size of the mesh, and yet by some oversight, by some blunder, every time that these laws have been amended, they have included that same clause that the nets now in use may be permitted. I just refer to that as one thing.

Mr. BISSELL.—It was an oversight.

Mr. HAMPTON.—I suppose the idea was, there was a constitutional question involved there, that they could not take property now in use. I suppose that was the idea. If that was the idea it nullifies absolutely any enforcement of that law. That is an illustration of the fish laws, and many of our game laws are so frail that it is utterly impossible in Michigan, until these defects are corrected, to have an enforcement of most of them. So that I believe that the first thing to do is to have the laws that can be enforced and then I will say, have a system of wardens that you will agree upon to have those laws enforced.

Mr. WILMOT.—I beg to intrude again for a few minutes, particularly in regard to the remarks that came from Mr. Bissell. His view would seem to be to establish a sort of sliding scale for the close season for fishing.

I may say to you that I have constructed fourteen hatcheries in the Dominion of Canada, from the Atlantic Ocean to the Pacific, and my experience of twenty-five years proves to me beyond any doubt that there is a very little variation with regard to the spawning time of the salmonidæ in that great extent of territory. We have taken whitefish in Manitoba, whitefish in the Georgian Bay, whitefish in Lake Ontario and at other points, and we do not find beyond three or four days' difference of the time in which the great spawning time takes place. We have salmon hatcheries extending from the Atlantic coast to the Pacific and we find but very little deviation, not beyond a week or ten days, of all the eggs we gather for our hatcheries. We have salmon trout that we gather in Georgian Bay, along Lake Ontario and elsewhere, and, in fact, it only deviates a few days in regard to time when the eggs are perfectly ripe for impregnation.

So under those circumstances the Dominion Government has thought proper to select a period which will cover all the locations between the Pacific and the Atlantic as far as a close season is concerned. They find that the salmon-trout and the whitefish will be covered by a close season taking in the month of November. That also includes

herring. If you are going to give a part of a season, eight or ten days, it will amount to nothing, because they do not spawn in that time. Some fish are a little further advanced when they approach the shores for reproduction than others, and you must get a certain limit in which you cover the greater proportion of the spawn, and our experience of twenty-five or thirty years shows that the month of November will cover the period of spawning of the whitefish in the northwest territories, in Manitoba, in Georgian Bay, in Lake Huron and in Lake Ontario and elsewhere where we have been manipulating fish. The consequence is that I think if you wish to have a variable period, you will not be carrying out what is correct with regard to the protection and propagation of your fishes. Take only one limited period of time and that will cover two or three of the more important species and let that be kept thoroughly and efficiently and you reach the point which you are aiming at; but, to have a sliding scale with regard to a close season, having one time in one state and another in another, to my mind would be a fallacy and amount to nothing whatever.

Mr. Osborn.—Mr. Chairman and Gentlemen of the Convention—We cannot get, sometimes, home rule when we want it, and it is not policy for this convention, I think, to ask of the legislatures of the states to enact laws which will stop the fishermen from fishing in November. I do not believe one of them will grant it. You will get nothing. In our state we have shortened the time to thirty-five days for shooting quails and we have done it gradually. We commenced with sixty-five days and there is scarcely a sportsman in Ohio to-day who would be willing to grant an extension of the time, for they find that in the thirty-five days of open season we have an abundance of game, and it is not possible for them to reduce the quantity of game by shooting.

If we could have five days, say at the close of the season before the fish quit spawning, with no nets at all, we would have a great quantity of fish spawned, naturally. As Mr. Bowman has shown, one Sabbath day or two Sabbath days of the shad season in New York gives plenty of shad from which to take the spawn. The shell fishermen of New York and Connecticut have hit upon a plan for the preservation of their shell fisheries that is a perfect success, and the shell fisheries of the Chesapeake Bay will have to come to the same—the leasing of grounds upon which the shell fish grow and are produced. We will have to come to this upon our lakes, the leasing of the fishing grounds, for only upon leased grounds do we reach that enforcement of observance of law which will make the fishing perpetual. We have the decision in Ohio of some of our best lawyers, showing that this is constitutional and that it is in the power of the state to lease the fishing grounds. Now, you can see that leases could be executed in such shape as to put the conduct of the fishing, the ways for the fishing, the days for the fishing, altogether in the hands of the officers having it in charge, and this settles entirely and altogether the whole question. Canada, under the common ruling as given by our own lawyers, can do the same thing; they can lease their fishing grounds, and this will prevent the trouble.

Mr. Wilmot.—They are doing it now, sir, and always have.

Mr. Osborn.—That only goes to show we can do it too, but upon the opinions founded upon general law and good reason, it can be done upon both sides of the water, and I think if this convention will consider the feasibility of leasing and its desirability, and recommend that, we will do a great deal, but I believe if we ask the state legislatures to prohibit fishing during the month of November, we will accomplish nothing. We may accomplish a good deal upon the other hand. This matter has been considered by our fishermen and there are a great many difficulties in the way, but they are principally selfish difficulties, that is, difficulties between the fishermen and the location of their nets, but if they do not do something they will have no fish to catch after a short time.

The Secretary.—Mr. Chairman and Gentlemen—I have been listening to the remarks made this evening upon this subject, and I must say that it is a very deep and very knotty subject to settle. I think we have lost sight of one thing that was recalled to me by the observation of Mr. Booth in his letter in regard to meeting our neighbours across the water, the Canadians, and we should bear in mind that their territory covers the entire north shore of our inland great lakes and that they have not only passed these laws of close seasons, but they have gone still farther and appointed a committee this last fall for the purpose of conferring with the people of the United States in reference

to these great lakes and the fisheries. Now, the thought has occurred to me that after all our discussion, it does not seem possible for us to agree, and as Mr. Bissell has remarked, this is a matter that requires a great deal of study. I think that six of the states bordering on the great lakes are to-night represented. Three of them are not represented, Pennsylvania, Illinois and Wisconsin. Considering the importance of the matter, and the many questions arising to be settled and interests to be considered and subserved, it occurred to me whether it would not be better for this meeting to appoint a committee empowered to draw up a petition or a request to be sent to the governors of the states bordering on the great lakes, stating the importance of the subject, and the fact that Ontario has appointed a commission, for the purpose and ask those governors and their legislatures to appoint a commission to meet with the Ontario Commission and take evidence and examine into this subject. Then they could report back to their different legislatures the legislation that they deem best and wisest to enact. Do you not think that by that we would arrive at a wise solution of the whole matter? Would it not be better than to go to the different legislatures and get enactments that would not agree? It seems to me that to accomplish anything we have not only got to get at the thing correctly before we go to the legislatures, but we have got to get some uniformity, and then besides all that we have to go there with a sentiment behind us that will carry us through. Such a proposition coming from such a commission, representing Ontario and all the states bordering on the great lakes, after plenty of study and consideration and testimony from parties interested, would be a step toward the settlement of the whole question. I merely make that suggestion as it occurred to me after hearing the remarks of you gentlemen. I think we ought to meet our Canadian brothers half way and show them we are interested in these fisheries of the great lakes.

Mr. Andrus.—It has been the idea of the Minnesota Commission that the time is not far distant when we will have to do as our Canadian friends do and lease the grounds. I fully agree with the remarks of the gentleman who has preceded me, Mr. Amsden, that it would be wise first to have a committee appointed to draft a petition with such a request as he suggests. Speaking for the Minnesota Commission, I believe we would fall in with that very quickly.

Mr. Wilmot.—I wish to say something with regard to the leasing of the fisheries. The Canadian Government both leases the fisheries and grants licenses, and each of those leases and licenses always have in them the statement that the close season shall be observed so that the leasing of the fisheries or anything of that kind will not interfere with the system we adopt in having a close season.

Dr. Sweeny.—It seems to me, gentlemen, that the closer we are to the law-making power the better. I do not know what influence your governor may have on the legislature here in this state, or in any other of the states, but in our state a respectable committee can do more with the permanent standing committee toward maintaining the laws than the governor.

I think the surest way for us to do is to talk to these gentlemen like brother Keyes and show them that we are honestly and earnestly working in their interest, It does not make a cent's worth of difference to me who catches the fish. I would like to see you catch twice as many fish as you did before, but I honestly and earnestly believe that the way to do that is to preserve the fish by a close season and give them a chance to reproduce themselves, and we will supplement the natural process by fish culture. And if we can convince you that we are working in your interest, which I honestly think we are, and you would join your efforts to ours, there need be no contest; we can have these laws passed and the fish will be preserved, and you will get the benefit, not the fish commissions. We will get no benefit; it is our fellow citizens who are making their money by catching fish. We only ask you to join us in the effort to increase the fish business, your own business; it will not make a cent's worth of difference to any fish commission that I know of, but we are sincerely working in the interest of those who are making money out of catching fish, and I think if we can get together and show that there is no antagonism between the fish culturists and the fish catchers, the matter may be settled without any difficulty.

It is my earnest desire that such a meeting of these committees to be appointed will be brought about, and that we will formulate something that may lead to proper

legislation, which will conserve and preserve and extend the benefits that the fishmen are getting, and not only they, but through them the whole people will receive the benefit of it. That is as I take it, the whole of the matter, that we wish to preserve the fish we have instead of letting them be extinguished; to increase the supply, and that increase inures to the benefit of those who have their money invested in the selling and catching of fish. It seems to me that if we can come to an understanding with each other that there is no antagonism, it will be seen that we do not wish to oppress any man's business. I am sure all the fish culturists that I know would like to see them catch tenfold what they are to-day. That is the whole object of our efforts, and has been for years, and as I say, if we can come to an understanding with each other and show you these things, I think your business and your interests will be subserved beyond any other. We have been receiving this opposition from the fishermen for years, and at first it was ten times as pronounced as it is at the present time, and I feel encouraged. At first they were not willing to allow us to take the eggs, and now they gladly assist and do everything they can, give us room in their boats to take the eggs, and are glad we are doing it, and this last year the only jealousy I have seen on Lake Superior was because we did not have a man with each boat that went out.

Mr. HUNTINGTON.—Mr. Chairman, as I understand, this is a conference for the purpose of considering certain questions, and the first question before it for consideration is in relation to protection. The one now under consideration is, as I understand it, Should there be a close season for whitefish?

It appears to me there is a very great difference of opinion upon the subject here, and it seems to me that it is an abstract question which we have before us to be considered. I have listened with a great deal of attention to the arguments of these gentlemen from their various standpoints, and while we are not a legislative body, and not responsible to our legislatures, yet it might lead to a good deal of benefit if we could agree upon making a uniform recommendation, and I will make the following motion, "That it is the judgment of this conference that there should be a close season."

The motion was supported.

The CHAIRMAN.—The motion is now open for discussion. We have not heard from Mr. McDonald, and as he represents the Buffalo Fish Company, we would be very glad to hear from him.

Mr. MCDONALD.—I think that first question should read: "Should there be a close season for herring, instead of whitefish?" I think the whitefish are all out of Lake Erie, and it is the herring we are after now. We have made up our minds that there should be a close season for the fish. We believe that everything should be taken out of the water on the 15th day of November, every net of every description. We do not believe at all in having a close season in the spring of the year. We think the pickerel is a fish that should be cleaned out of Lake Erie. We claim that they consume more herring than their own real value amounts to. There is really no money in the fish.

Dr. SWEENY.—May I ask what fish you mean by pickerel?

Mr. MCDONALD.—I mean the wall-eyed pike. We think a good deal of the Canada laws, in the way they stand now, and I suppose the dealers on this side will have some prejudice against us on that account, for the reason that we get a great many of the Canada fish. We think that the Canada laws, modified a little bit, taking that spring close season out of them and having a close season for everything in the fall of the year, would do a great deal towards replenishing the lakes. There was a letter read from a gentleman a few minutes ago which stated that the whitefish were apparently cleaned out. We are having more whitefish to-day that we ever had.

The SECRETARY.—Where do they come from?

Mr. MCDONALD.—From Canada, from Lake Erie, Georgian Bay, Lake Superior and Manitoba.

The SECRETARY.—You do not get any from Lake Erie?

Mr. MCDONALD.—We get our share of them.

The SECRETARY.—Are there any caught in your nets?

Mr. MCDONALD.—Yes.

The SECRETARY.—What part of the year?

Mr. MCDONALD.—We catch them in October and November.

Mr. KEYES.—Were there more whitefish this fall than last?

Mr. MCDONALD.—Yes.

The SECRETARY.—You say you catch whitefish, at which end of the lake?

Mr. MCDONALD.—Both ends. We have fisheries at both ends of the lake.

The SECRETARY.—On the American or Canadian side?

Mr. MCDONALD.—Both sides.

The SECRETARY.—You get whitefish on both sides and at both ends of the lake?

Mr. MCDONALD.—Yes.

Mr. WILMOT.—During the close season?

Mr. MCDONALD.—No, sir; we never violate the close season of Canada. You know better than to do that, and that is one reason why we admire the Canadian laws. When they say you have to do a thing in Canada, you have got to do it. We tested that this fall on the herring, and they gave us orders to stop fishing, and we stopped.

Mr. POST.—I may say, so far as the Detroit River is concerned on the American side, that all the fish caught were caught by the Detroit Fish Commission, and they answered a useful purpose in furnishing spawn for reproducing fish. We caught all the fish that were caught on this side of the river this season, and practically all that have been caught for several years.

Mr. WILMOT.—I might state for the information of the conference that it is the same case with Canada, all the fish caught on the Canadian side of the Detroit River were caught by the Government nets this year.

Mr. KEYES.—In regard to this question of a close season, I will say we cannot make a law in Ohio which will close one part of the lake and leave the other part open. If we make a law it has got to be for the whole state.

The SECRETARY.—What are you going to do with Pennsylvania?

Mr. KEYES.—Pennsylvania, of course, is left out. Many of you are labouring under a decided mistake so far as the fishermen are concerned. There are no people on the face of the earth who are more anxious to keep up the fish supply of these lakes than the fishermen engaged in catching them for commerce.

The question of a close season is not a new question. You take the matter of the shad that Mr. Bowman talked about in the Hudson River. I would like to know when he would take them if he did not take them in the spawning season, that is the only time.

Dr. SWEENY.—That is because they do not live in fresh water.

Mr. KEYES.—The trouble with the close season in Lake Erie is that you want to take the very month when we can catch the fish.

Mr. POST.—We propose to divide it.

Mr. KEYES.—I am not talking about the time at all; but you take the only time that the fishermen can take fish in paying quantities. If you could prove that by the close season of the month of November, you would replenish the waters of Lake Erie you might have an argument, but I doubt very much if you could substantiate that.

Dr. SWEENY.—There is Canada, that is a sample.

Mr. KEYES.—It is not at all parallel to the state of Ohio on the fish question. If you catch a she fish before it has spawned, you destroy the spawn just as much as if you wait until the spawning season and get it.

Mr. WILMOT.—You say there is no possibility of destroying the fish for spawning purposes?

Mr. KEYES.—No, I do not say that. What I mean is this: If we can leave enough ground, if the fishermen will not lay their nets so that the fish cannot get to their spawning grounds, your supply of fish will be kept up.

Mr. HARRIS.—I do not think sufficient stress has been laid on the question as to whether whitefish are fit for food at the time we propose for a close season, that is during the spawning season.

A circumstance occurred in 1885 in England, during the period of the great Fisheries Exhibition, while the Chinese deputation were over there. They were surprised at the scarcity and price of fish in England. In their own country, which is the most densely populated country in the world, there are cheap fish and fish for everybody, but it is their religion which keeps it up. While the Chinese will eat rats at any

time, it is their religion not to touch a fish in the spawning season. They look upon it as poison, and the fact remains that in China, probably more than in any other country, there is a superfluity of fish, and fish for the whole population. It is not at all improbable if we go on in this country catching our fish out of season that we will have to learn what it has taken them a thousand years to learn, that we will destroy everything. In Canada we destroyed everything; we destroyed game and fish, and a good deal of the land. Everything is wasted. It seemed to come natural to destroy.

When we come to Lake Erie, the lake I know most about, I know just how much destruction has taken place there. When I was a young man it was one of the finest whitefish lakes in Canada, and you can imagine what the rush of whitefish 48 years ago was that came up the Detroit River to spawn and for nothing else. You destroyed them and they are gone. In Canada, in the position which I have recently been placed, though only temporarily, it occurs to me that we hold our fisheries in trust for the people.

The CHAIRMAN.—That is right.

Mr. HARRIS.—To see that they have for all time a supply of fish ; that the country is not deprived of this fish.

Mr. KEYES.—I would like to ask you if you think it is right to catch a fish in a gill-net ?

Mr. HARRIS.—I look upon the seine as the worst of all nets ; I look upon the gill-net as the next worse, and I look upon the pound-net with a proper mesh as the proper way to catch fish in our lakes.

Mr. KEYES—That is right.

Mr. HARRIS.—I believe there are more fish destroyed in the Georgian Bay, carried away in November by gill-nets, than are ever brought ashore.

The SECRETARY.—Suppose, Mr. Keyes, nothing is done in the way of regulating the fisheries of Lake Erie in the next five or ten years, what would become of your investments in your boats, twine and everything else ; would it be a dead loss to you ?

Mr. KEYES.—I do not think that makes any difference, though I will answer that question. I am perfectly satisfied that if some regulation is not entered into, the fishing outfits in Lake Erie in five years will not be worth five cents on the dollar.

Mr. HARRIS.—I have been asked what I consider the proper pound-net. I suppose that is meant for Lake Erie. I can only speak for our own side, but I think the proper pound-net for our side of the lake is an eighty rod lead, six or seven-inch extension mesh, four-inch mesh in the hearts and three-inch in the pots. I think our herring in Lake Erie are much larger than the Lake Huron herring and considerably larger than the Lake Ontario herring. I think our three-inch mesh will just catch the proper herring, and will allow a very fair sized small whitefish to escape. That is the net I think proper for Lake Erie, and I think it would be satisfactory to most of our fishermen.

Mr. WILMOT.—Will you describe to the conference the idea that prevails with the pound-net fishermen on Lake Erie as to the close season ?

Mr. HARRIS.—Our pound-net men are quite willing to have a twenty-day close season, and I think you may say they are prepared for a month. There was a suggestion to make the close season from the 15th of October, but that was too much for them. They are quite prepared, and I think they look forward to having a proper close season. There are very few gill-net men with us and many of them have but a very small amount of capital invested, but our pound-net men usually have five or six nets and their steam tugs and ice-houses. Some of them have freezers, but it is not a very pleasant outlook for a man with several thousand dollars in the fishery business to look forward to that business getting worse and worse every year, and to look forward to nothing less than to have to sell out and start some other business. They are all beginning to have those views on this question, and they are all willing to listen to any plan that is suggested to improve their fisheries, so they may look forward to the improvement of their business from year to year.

The CHAIRMAN.—Gentlemen, is there anything more to be said on this question ? I feel, myself, that I would like to talk on it, but I shall not delay you. There has been a great deal said and I should like to have alluded to what has brought this matter to

the attention of fish culturists, and to their disinterested way of looking at the matter. We have no antagonism to the fishermen, but we do feel the truth of the expression used by our Canadian friend (Mr. Harris), that we hold the fisheries in trust for the people for the future. I will not go on because the hour is too late, and if there is nothing more to be said, I will put the question.

Mr. WILMOT.—I move that the Chairman be allowed to proceed with his remarks.

The motion was put by the Secretary and carried.

Mr. WHITAKER.—In my boyhood days I lived about sixty or seventy miles south of Lake Ontario, in the state of New York, and in the winter season of the year it was a customary thing for the farmers in that community to go to Chaumonth Bay, and bring back in their sleighs large quantities of Lake Ontario fish. They would bring back trout, whitefish and ciscoes, and these were sold to the farmers all about that country and served the purpose of breaking up the monotony of the pork barrel, giving to the farmer a variety of cheap and wholesome food for his table. About twenty years ago I left the state of New York, and from information I have I know that within five or ten years from the time I spoke of the commercial fishing of Lake Ontario became extinct practically. It was not pursued for profit any longer by fishermen. This illustrates what fishing without restraint will do. The same thing is occurring in Lake Erie to-day, and the same is true of the fishing in the lower end of Lake Huron.

Look at Lake Huron in 1834, according to Blois's statement of its fisheries, and look at Lake Huron to-day. Blois in his Gazetteer, published in 1834, said of the locality at the Straits of Mackinac, the fish are so plentiful here that for ages they must furnish the principal article of food to the large number of people who shall settle upon the shores of these lakes. It was true, and the size of the fish was magnificent. But Blois never could have dreamed that in fifty or sixty years from the date at which he wrote there would be settled, in the six states bordering upon the shores of these lakes, one-sixth of the entire population of the United States of America. He never could have dreamed that in every important fishing port upon those lakes there would be freezers of immense capacity which would make it not only possible but profitable for fishermen to fish the entire year, except when the elements drove them from their pursuit.

The fishermen say to our commission when we go to them for the purpose of gathering statistics, that year by year the meshes of the nets are contracted, they grow smaller and smaller. I have had that information from fishermen since we have been in session here, and the attempt at all times and at all places is to take fish with a gradually decreasing mesh. The result of it is that there are to-day hundreds of tons, I believe, of small whitefish that are taken under the guise of herring and are sold in the markets for herring.

Another thing that appeals to us as commissioners, and we have no other interest in the fisheries except to subserve the interest of the public at large, is the fact that the work we are doing to-day, which the states engage in so willingly, is for the purpose of perpetuating this food for the people, and incidentally the fishermen reap the benefit. The trouble is that they take our fish before they ever get to a spawning age, and there comes in the iniquity of the thing. There are fishermen all through these lakes who desire some sort of close season imposed or some sort of restriction laid to prevent the waste.

These things appeal to us as commissioners. We have no interest in it except as a public undertaking. We say to the fishermen, look at this matter in the way we look at it. If you can leave in the waters these fish that in a year or two will be merchantable and of value to you, why not permit them to be left there? Why take them out when they are immature and have never come to a spawning age? In that way we lose the great benefit of our work of artificial propagation, and I say to you now what I firmly believe, that in the course of a very few years if this thing goes on as it has been going on, it will all stop. I say to you fishermen that it is to your interest as well as to the interest of the public, whom we represent in this matter, that some reasonable regulation should be imposed. I would not hear to a regulation that would drive a man out of his business, but let us have some reasonable regulation that will not permit you to take out these fish when they are immature, but will leave them in the lakes until they are marketable and of value.

As far as the whitefish is concerned, it is a tender fish, and I am assured by men who know that they are so tender that very many times in handling they are injured so they die. I cannot quite understand the idea—I may be wrong—I may not be informed, but what is the use of taking these fish in nets if you are going to put them back again? Why not leave them in the lakes? Why not so construct your nets that you will not take them at all, but so they will take only the fish that are of merchantable size? It seems to me that that ought to be a reasonable regulation to lay upon the fishing industries.

Let me say one thing with reference to a close season. In Canada they have the month of November closed. Their fishing is profitable. There is no complaint there from the Canadian fishermen, as I understand that the fishing is not profitable; but the only thing they do say is that our neighbours are fishing without restriction across the border, so why not allow us to go on and do it? I am thankful to see that there is one place on God's footstool where they do enforce a law that seems to be a reasonable and just law. I wish we might do it here.

There were some remarks made here with regard to a licensing of grounds. I assure you, gentlemen, that if we go along for just about five or ten years more in this way you can license your grounds for growing celery or fresh water oysters, but you cannot license them for whitefish. The fish will be gone. There will be nothing to lease. The state will have no fishing grounds that there will be any money in. There will be no temptation for a man to rent fishing grounds here at all. The destruction of the small fish is the thing, if it is possible, that we should overcome. I hope we shall get together on this and that we shall adopt the resolution of the conference committee that may report here to-morrow if the report commends itself to us. Let them report here to-morrow morning at 10 o'clock; let us have that conference committee; let us see what we can do, and I shall be very glad indeed if we can come to some conclusion. Our legislative bodies ought not to be apart from each other in the matter of regulation. We ought to be united, but it is hard to be met by the statement that no regulation will be submitted to in the matter of restriction. If we are wrong in this thing, this conference committee can come to some conclusion and submit it to us, and we can come to a determination as to what ought to be done.

Mr. McDonald.—Before we close I want to say that you are wrong in thinking that we are not in favour of a close season.

The Chairman.—I did not so understand your position, Mr. McDonald.

If there is nothing more to be said on this question I will put the motion. The motion is that the conference concur in the sentiment that it is their belief that there should be a close season.

The motion was carried.

The Chairman.—Now, what will you do with the other resolution that was proposed, for the appointment of a committee?

Mr. Bowman.—I move a committee be appointed.

The Chairman.—It is moved that a committee of conference be appointed, one representative from each state and also representatives from the fishermen.

Motion carried.

The Chairman.—How shall that committee be appointed?

Mr. Post.—By the Chair.

The Chairman.—Anticipating that perhaps you might want me to appoint a committee, I have prepared a list.

Dr. Sweeny.—You are no politician.

The Chairman.—I can see some embarrassment to Mr. Wilmot in connection with an appointment on this committee, and yet he ought to serve on this committee.

Mr. Wilmot.—I think some other gentleman had better act in my place. I should be happy to render any service I could. This is outside of the jurisdiction in which I have authority.

The Chairman.—I think I will appoint Mr. Wilmot as a consulting member of the committee.

Mr. Wilmot.—Is that in a medical way, in regard to seeing that the fish are not interfered with?

The CHAIRMAN.—Yes; your appointment is in a purely Pickwickian sense. I will appoint Mr. Bowman, from New York, Dr. Sweeny, from Minnesota, Mr. Keyes on behalf of the fishermen, Mr. McDonald on behalf of the fishermen, Dr. Parker, of Michigan, Mr. Osborn, of Ohio—he has left unfortunately, I find.

Dr. SWEENY.—Mr. Chairman, if my colleague, Mr. Andrus, will take my place on that committee I will be very glad to have him do so, because he is perfectly familiar with all the laws, having recently studied them, and he knows what the other states have done.

The CHAIRMAN.—The Chair would be very happy to excuse Dr. Sweeny if the circumstances were not so that he cannot do so, he therefore will appoint Mr. Andrus as the other member of that committee from Ohio. I will suggest that this committee may call an informal meeting at the close of this session, so that they may have the advantage of consultation wi h Mr. Keyes, who, I understand, is going away to-morrow. I will also appoint Mr. Gould, from Maine.

Mr. BOWMAN.—Mr. Secretary, I move that Mr Whitaker be also appointed a member of that committee.

Motion carried.

Adjourned to December 21, at 10 a.m., 1892.

Mr. BOWMAN.—The special committee that was appointed last night is ready to report, and begs leave to submit the following:—

"DETROIT, 21st December, 1892.

"*To the Fisheries Conference:*

"GENTLEMEN,—Your committee, to whom was referred the question, 'whether or not there should be a close season for whitefish, lake or salmon-trout and herring,' also what means should be taken for their protection, would report:

"1st. All small fish and those unfit for food of all kinds when taken in nets, should be replaced in the water where taken alive, and that fishermen should not be allowed to take such fish on shore, nor expose them for sale.

"2nd. That no string pound of nets used in the lakes shall extend more than four miles from shore.

"3rd. That one-half part of all channels between islands or elsewhere where fish migrate to spawn, shall be kept free from nets of all kinds at all seasons.

"4th. That all whitefish taken of less than sixteen inches in length, and all salmon-trout less than two pounds in weight shall be immediately returned to the waters where taken and shall not be exposed for sale. That all herring less than eight inches in length, and all wall-eyed pike less than twelve inches in length, shall be returned to the waters where taken and shall not be exposed for sale.

"5th. That the month of November in each year be made a close season in all the great lakes for whitefish, herring and salmon or lake trout.

"Your committee would further recommend that all penalties fixed for violations of any laws that shall be enacted shall be made not only to apply to those who take fish, but also to all persons who buy, sell, transport or have the same in possession.

"The 1st, 2nd, 3rd and 4th recommendations were unanimously adopted by your committee.

"The fifth recommendation, making the month of November in each year a close season for whitefish, salmon-trout and herring was adopted, all the members voting "aye" except Mr. Keyes, from Ohio, who voted in the negative.

"*Resolved*,—That the law should authorize the seizure and destruction of nets used in violation of law."

Mr. AMSDEN.—Was any consideration taken of the size of mesh in gill-nets?

Mr. BOWMAN.—No, that was not considered. No recommendation was made by the committee in that regard at all.

Dr. SWEENY.—I move its adoption.

Mr. GOULD.—I will second it.

The resolution as amended was then unanimously adopted.

The Chairman.—The next matter to be discussed is close seasons for brook trout, grayling, California trout, brown trout, Loch Leven trout, land-locked salmon and small-mouthed bass. I think there is no objection to the close season now in force for all those fish, unless it be black bass. Mr. Bowman, have you any close season for black bass in New York?

Mr. Bowman.—I am not certain about that. I will look it up. Yes. For black bass, or Oswego bass, the close season is between the 1st day of January and the 1st day of May.

Mr. Andrus.—In Minnesota it is from the 1st day of December until the 15th day of May.

Mr. Whitaker.—I think we have a close season in Michigan.

Mr. Hampton.—There is a close season, although they can be taken at any time with a hook and line. The only close season is in regard to spearing, and that is practically nugatory.

Mr. Wilmot.—In Canada that would be prefectly useless. The 15th of June is our ending, but we find even that is too early. We should extend it to the 1st day of July. The black bass requires a longer season; it is so solicitous of its egg and of its young. The parent fish remains with its young for some time after they are hatched, hence it is my experience as a close observer of these things generally, that the close season should extend to the 1st day of July.

Mr. Whitaker.—I want to say that, so far as the American waters are concerned, at the St. Clair Flats there is little fishing done before the 15th of June, and those that are taken are usually taken off the spawning beds, and their flesh is insipid and of no account. I had as soon have a piece of bob veal as to have a black bass that is caught, for instance, at the Put-in-Bay Islands in May or June. They are tasteless, and if the limit is fixed it seems to me it ought to be not later than the 15th of June. Judge Speed is much interested in the propagation of fish and their protection, and no doubt the conference would be glad to hear from him.

Judge Speed.—I don't know as I have anything to say in addition to what other gentlemen have said. But I think spearing ought to be stopped more than fishing by any other means. There is a gentleman here from Chatham who was speaking of fishing over in Mitchell's Bay. Similar conditions, I think, prevail on our side. Mitchell's Bay is a part of what is called St. Clair Flats, not far from Chatham. The fish run in there in water that is not more than three or four feet deep where you can see the bottom readily at any time, and where they lay their eggs, stay there for a time, and watch them, and they go there, on our side at any rate, and spear in large numbers, because they can see them readily and get at them. They go there as early in the spring as they can go and continue spearing right along. It ought to be stopped because the large number of those fish caught there are almost useless for any purpose. In addition to that they troll on those grounds, and large numbers of fish are caught in that way. They troll with spoon hooks and also with minnows, and they catch fish as late as July on those spawning grounds. Then they are just commencing to run off in deep water—between the 15th of June and the 1st of July. Very many of the fish are large, and I would like to see that sort of thing stopped, if it is possible, or the taking of any kind of fish on spawning grounds. I would fix the period as late as the 15th of June, rather than the 1st of June or the 15th of May, because then you would insure the stopping of fishing on those spawning grounds. Of course, in some waters you can fix the period much earlier, but in our water they spawn late in the season.

I was not present yesterday, but I am very sorry to learn that the conference adopted a resolution limiting the taking of fish by the weight rather than the size. Because I think you will find in this state, and I think too, in Canada, that all questions of fact must go to a jury, and when you come to submit that question to a jury, you will find that the weight of fish is so hard to determine that they will find in favour of the party complained of. If you fix on the size of fish you have something at which they can get at. Almost anybody can tell the length of fish within one or two inches by sight, but not so by weight. You never have scales present, and you leave a loop-hole where many people escape. If you fix the size of fish, and say that fish of a certain length, no matter what it weighed, it shall go back in the water, you fix something that

will be definite, and almost any one can determine it with the eye. If you fix it by weight, the question will be asked before the jury, "Did you have any scales? Do you know anything about the weight of that fish?" And you will find any quantity of fish will go to the market on weight, where you can very readily determine by the eye on size. It may be arbitrary, because one fish of a certain length will weigh more than another fish of a certain length, but you arrive at it close enough for all practical purposes, for the purpose of conviction, and that is what you want to get at.

Mr. HAMPTON.—I believe that suggestion is a wise one, for I have found it so in practical experience, and I think it would be well to reconsider that question and submit an amendment that will cover the weight as well as the size desired.

Judge SPEED.—No whitefish of less than twelve or fifteen or twenty inches in length, whatever you may determine upon, and then you will have something definite upon which to go.

Mr. WILMOT.—Allow me to suggest, as the conference is going down to Sandwich hatchery they might have ocular demonstration of the length of fish, because there are a number of whitefish there, and we might better come to a conclusion as to the right length of fish. I perfectly agree with the gentleman.

Judge SPEED.—You can get at it by taking a number of fish and weighing them, and then determine their length, and you will find they won't vary an inch. There is then something absolutely certain to go upon, and fish less than fifteen inches in length shall not be taken under any circumstance.

Mr. HAMPTON.—In order to bring the matter up I move you that we reconsider the report of the committee on the size of whitefish taken.

Mr. Hampton's motion was seconded and unanimously adopted.

Dr. PARKER.—I move you this question be postponed until after we return from our trip down the river, so that we can there determine as to the proper length of fish, unless we can determine right here. Perhaps Mr. Keyes could tell us. What we want to get is the length of the pound-and-a-half fish.

Mr. WHITAKER.—I will ask Mr. Craig, who is a practical fisherman, to give us some information on this point.

Mr. CRAIG.—I should think fourteen inches a good length of whitefish; I should not think it would go fifteen inches—that is, the length of a whitefish that would weigh a pound and a half.

Mr. KEYES.—I think, about fourteen or fifteen inches.

Mr. HAMPTON.—I move you then to strike out the words "pound and a half," where they occur in the resolution, and substitute "fifteen inches."

Mr. WHITAKER.—It seems to me it would be a very easy matter to determine the length of a pound-and-a-half fish. Mr. Craig can do it. I don't think the live fish down there are of that weight.

Mr. KEYES.—I guess there are very few Detroit River fish that will weigh two pounds.

Mr. WHITAKER.—Yes, we have sold our catch on the average of two and a half pounds. We have sold our entire catch to dealers of fish, caught on the Detroit River, at two and a half pounds weight, the weight being the averaged.

Mr. KEYES.—That is bigger than they catch them now.

Dr. PARKER.—I desire the resolution laid on the table. It would be a good object lesson; we might learn something about the weight of fish by taking some practical observations down there.

Mr. WHITAKER.—What would be the objection to the appointment of a committee of three to determine that question and report to us immediately upon our return? The Chair will entertain such a motion.

It was moved and supported that such a committee be appointed. Duly carried.

JUDGE SPEED.—I think, gentlemen, you will probably find from experience, that wall-eyed pike, of which large numbers are sent here from Saginaw Bay, and perhaps other localities, a great many of them are smaller in size, and you will have to adopt a different rule in regard to them than to whitefish. You should make a difference in weight in regard to those fish as well as a difference in size.

Mr. WHITAKER.—It would certainly be a good idea, and another thing that escaped me at the time: it might be a question, under a prosecution, whether it was the weight

of a dressed fish or the weight of a green fish. The Chair will appoint on that committee, to report at once on our return, Dr. Parker, Judge Speed and Dr. Sweeny.

JUDGE SPEED.—I don't think I can visit the hatchery.

Mr. WHITAKER.—I will then appoint Mr. Wilmot. The committee will consider that matter and report immediately upon our return.

Mr. CRAIG.—I did not come here to say a word, but there is one thing that has been mentioned that I am, perhaps, a crank on, and that is the fouling of our waters. I think if we in Michigan had kept our waters as clear as they have been kept in Georgian Bay, we would have whitefish on the spawning grounds just as we had thirty years ago. Speaking about gill-netting on Georgian Bay, there are men there to-day who I dealt with forty years ago—I met them here five or six years ago, and they have used the gill-nets right along. I do not believe the gill-nets are such poisonous affairs. I have sold more gill-net fish than any other kind. If a fish gets foul, he goes on the offal heap. I do not know whether we have laws to prevent sawdust from being thrown into the lake, but if we have, they are not enforced. It is destroying and driving off many of our fish.

Mr. KEYES.—I would like to ask you one question: What, in your opinion, has destroyed the whitefish in Lake Superior? There is no sawdust thrown in the water there?

Mr. CRAIG.—There has never been big fishing in Lake Superior, except at White Fish Point, where Booth & Company are establishing their fishing nets. I have tried fishing there. It is a very deep lake, and the only place you can set gill-nets is where it comes up shoal.

Mr. KEYES.—I would like to ask Mr. Craig if he would eat a gill-net fish that he has hauled in, if it comes up stiff in the net?

Mr. CRAIG.—Well, I don't know. Yes, I guess, perhaps, I would.

Mr. WILMOT.—Pardon me, if you please, one moment. I am intruding upon you too much, but the subject that has been touched upon by the gentleman, I think it is desirable to make further mention of, and that is sawdust. There can be nothing more destructive of fish than the depositing of sawdust in the rivers and lakes. Wherever vegetation of any kind is stopped at the bottom of the water, there fish life is also arrested. In fact the origin and the production of almost everything extant is vegetable life. Upon land where there is no vegetation, there is no animal life. In waters where there is no vegetation, there is no fish life. If you put on the bottom of the waters a foreign substance like sawdust, vegetable life is stopped, and consequently insect growth is stopped, and consequently fish life is stopped. Minute crustacea of various kinds are fed upon the juices of these plants, which feed the smaller fish, and in turn the larger fish feed upon the smaller.

Mr. KEYES.—I want to beg your indulgence, as I have to go away, but if the gentlemen of this conference will take up the question of gill-netting, I would like to have them ask the Buffalo Fish Co., of this city—which has a branch house here, and they are as large a fish concern as there is in the United States, and fish in all waters—I would like to ask their opinion as to the merchantable and eatable qualities of the ordinary fish that are caught in gill-nets or in trap-nets. Don't understand me to say that all fish caught in gill-nets are bad. Not by any means. The fish that is alive is probably good enough to eat, though I never saw one in my life but what was in a certain degree bloated. I would like to have you gentlemen ask the Buffalo Fish Co., or anybody that has been with them any length of time, how the fish compare with pound-net fish in their business? Which fish can they sell on the market the best? Which fish carries the best, and which fish gets to the consumer in the best shape, in their opinion as dealers in fish? They are not catchers, I believe, to any large extent. I believe they are simply buyers of fish, although they do fish, of course. If there are any other gentlemen here, I don't know as there are, who are engaged in the business, I would like them to answer. Of course, if a man is engaged in gill-netting, he won't admit these things. He has his money in it, but if he is engaged in both systems, he will admit it in ninety-nine cases out of a hundred, and he will also tell you to what extent the gill-netting from spring to fall is practised in the northern lakes. It is not so much practised in the waters of Lake Erie, because the waters are warm, consequently they go up

north ; but you catch fish in warm weather and they very soon decay when they are exposed to the sun, and that is the reason why gill-netting is not practised in the upper end of Lake Erie in the summer months.

Mr. WILMOT.—I am afraid I am intruding, but when I hear arguments of this kind I feel it my duty to put before this conference the knowledge I have on this point. We have been taking the evidence of the agents of the Buffalo Fish Company on Georgian Bay and on Lake Huron, and those agents tell us they get better fish and larger fish in the gill-nets than they do in the pound-nets, for this reason, and it is a very rational one : The gill-nets have meshes of five inches and they get only the large fish, and they find that the large fish are the more marketable fish in market than the smaller fish. There is no doubt the fish are not as sound from the gill-nets as they are from the pound-nets, but the pound-net as now used is far more destructive than the gill-net.

On motion of Mr. Hampton the resolutions before the house were laid on the table until the reassembling this afternoon.

Dr. SWEENY.—I wish to present the following resolution :—

Resolved, That it is the judgment of this conference there should be a close season for bass and that such season should be between the 1st of April and the 15th of June, and all kinds of fishing, including spearing, should be prohibited in the close season.

Mr. WILMOT.—The proper season should be from the 1st of May to the 1st of July.

Mr HAMPTON.—There is one thing that seems to be overlooked, and that is the getting of something that the legislatures will adopt. The recommendations you pass upon will have no force with them. The Fish Commissioners know something about the efforts necessary to influence the legislators, and I suggest that you make the close season as reasonable as possible.

Mr. WHITAKER.—Let me say one word in reply. If there is anything that ought to have influence with a legislature it is the opinion of this conference. It was called into existence by the authority of the province of Ontario, and this is a continuation of those meetings. It seems to me the recommendation of the representatives of the different states, called upon to meet and discuss these questions, certainly ought to have some force before a legislature.

Mr. AMSDEN.—I am rather inclined to think this conference had better leave that question alone. I think if we take up the fish of the great lakes here and give our attention to them we shall accomplish all we can expect. The distribution of black bass covers so much territory, and there are such differences in temperature, and they vary so in time of their spawning season, I rather think we hadn't better try to pass any such resolution. Better leave out the black bass. It is the dearest fish to me there is, and I think their domestic habits are so much to be admired that we cannot do too much to protect them, but at the same time I think we had better leave that alone.

Mr. WILMOT.—Our Dominion Government covers several states, and we have taken the trouble to ascertain from these different states, which include Ontario, Quebec, Manitoba, Nova Scotia and New Brunswick, about their spawning habit, and we find there is very little deviation at all in regard to their spawning periods in the different waters. We find that the black bass, as a rule, almost invariably spawns in all these waters during the months of May and June, more particularly the latter end of May and the beginning of June. But, as previously remarked, this fish is so solicitous of its eggs and its young that it remains longer in the act of spawning and taking care of its young than any other fish, and therefore, the months of May and June should be adopted as the proper close season. I do not think you could get a better period than May and June. If you commence earlier than that you infringe on the angler too much, and if you allow them to be taken from the 15th of June to the 1st of July you interfere with the parent fish in the care of its young. I speak from an experience of thirty or forty years.

Mr. WHITAKER.—We will now vote on the resolution.

Resolved, That in the judgment of this conference there should be a close season for black bass and that such season should be between the 1st of April and the 15th of June, and all kinds of fishing, including spearing, should be prohibited in the close season.

A vote was taken and the resolution was adopted.

The conference then took a recess until 4 p.m.

WEDNESDAY, 21st December, 4 P.M.

Chairman WHITAKER.—The conference will please come to order. I will ask Mr. Bowman to perform the functions of presiding officer, as it becomes necessary for me to be absent the rest of this session.

Chairman BOWMAN.—We will now listen to the report of the committee of three appointed to report back to this conference the size of whitefish.

Dr. PARKER.—I will report that we found in weighing the fish that one fifteen inches long weighs one and one-half pounds, and one seventeen inches long weighs two pounds. So that we would recommend that no fish less than fifteen inches should be put upon the market.

Mr. WILMOT.—Don't you think that a rather small size, after all?

Dr. PARKER.—Yes, it is pretty small.

Mr. AMSDEN.—Two pounds is small enough, and it seems to me as low as we ought to go, but we will have to get it through by degrees.

Mr. WILMOT.—No fish under sixteen inches then, say.

Dr. PARKER.—Mr. Craig stated before the committee that that fish (referring to fish on the table brought from the Sandwich hatchery) was as small as ought to be put on the market; should be the limit, in his idea. I think we ought rather to exceed the limit than to go under it, as suggested by Mr. Wilmot.

Chairman BOWMAN.—Then do you report that the limit should be sixteen inches in length?

Dr. PARKER.—Yes, sir.

Chairman BOWMAN.—Do any of you gentlemen wish to be heard on this question? The committee have reported that all whitefish taken of less than sixteen inches in length shall be returned to the waters where taken, and shall not be exposed for sale. If there are no remarks I will put the question.

The motion prevailed.

Will the secretary read the report as amended in full?

(The secretary reads the report.)

Mr. ANDRUS.—I move the adoption of the report as amended.

(The motion was supported by Mr. Huntington.)

Unanimously carried.

Mr. WILMOT.—Before we adjourn, I would beg to tender to this conference the thanks of the commission of Canada who have attended for the courtesies extended to them. We feel deeply gratified that we should be permitted to come here by the kind invitation you sent, and we now wish to tender our thanks for the courtesy that has been extended to us.

Chairman BOWMAN.—The secretary and stenographer will make note of what has been said. It has been very kind of you, indeed, gentlemen, to come here, and we desire to make you one of us as much as we can.

Mr. HARRIS.—I can only add my thanks. I have been very happy in attending this meeting. I shall not forget my visit to Detroit for some time, and I am very glad that you gentlemen have been pleased.

The SECRETARY.—I want to make a motion that it be the sense of this meeting that further meetings of this conference are desirable, leaving it open to be called whenever the spirit moves. That it shall be subject to the call of the Chairman at any time, whenever the necessity arises.

Dr. SWEENY.—I will second that resolution.

Dr. PARKER.—How would it be to make it an annual affair, anyway?

Dr. SWEENY.—It would be very pleasant to me personally.

Dr. PARKER.—The question is whether there are enough subjects to come up for discussion.

The SECRETARY.—I think you will find that enough subjects will come up, and I think it would be well to embody it in the resolution.

(The resolution was unanimously adopted.)

Chairman Bowman.—I would like to say before we separate, on behalf of the American members of the conference, that we are all delighted and very much pleased with you gentlemen from Canada, and there is a general feeling that we would like to get nearer together. Our interest in fish matters are in unison and it would not only be pleasant always to have you with us, but I think it would do us both good. Certainly, we feel that we are receiving good from your hands.

The conference then adjourned *sine die*.

B.—THE CULTURE OF FISH.

BY LATOUCHE TUPPER.

Day by day, month by month, year by year there are men in the workshops, in the laboratories, on the waters and in the fields studying, experimenting, inventing for the benefit of mankind. Never has the world seen such a time of almost universal peace, with its consequent blessings. The present era stands pre-eminently the era of invention Steam and electricity have rendered the settlement of the interior of America, Australia and Africa possible. Medical sience has, with the absence of wars, lowered the death rate of the human family so that the increase of the population of the world is now enormous. To meet the increase and feed the hungry mouths new lands are being sought for the production of food, improved methods of feeding stock and economy of food production are eagerly sought. Millions of acres of fruit trees are being planted, the waters of every sea are searched for fish food, and more and more are our fresh waters called upon to supply the ever increasing want. Fish culture though practised in a desultory and crude manner in some European countries, and in China for years, never advanced until forced on the notice of the Governments of United States and Canada by the work of three gentlemen whose names follow. The first organization in the United States was in 1871, Professor Baird being chairman. So impressed was the Government by his report, that in 1872 they appropriated $15,000 "for the introduction of shad into the waters of the Pacific States, the Gulf States and of the Mississippi Valley, and of salmon, whitefish and other useful food fishes into the waters of the United States to which they are best adapted." From this beginning the work has increased so much that now the Commission plant yearly over 200,000,000 fry in the United States, while many States have separate commissions, notably those bordering on the great lakes such as Wisconsin, Michigan, New York, etc. As an instance Michigan planted in 1890:

Whitefish	109,700,000
Brook trout	2,578,000
Pickerel	44,340,000
Carp	5,798
Loch Levin trout	30,000
Swiss trout	17,360
Schoodic salmon	44,888
Brown trout	60,000
California trout	16,000

This alone by one state in addition to the work of the United States Commission. Canada has thirteen hatcheries in operation and as vigorous a policy as regards fish culture should, and doubtless will obtain here as they had across the lines. We have long led the United States in the protection of our fish, and the present completeness of our work regarding fish culture is largely attributed to the life-long work of Mr. Wilmot, and others in Canada. Indeed it is practically recognized by the fact that some of the most successful hatcheries in the United States are managed by superintendents who had spent their younger years in the Newcastle Hatchery, the parent institution of Canada, and there fitted for the important positions they now occupy.

Aqua culture, or fish culture, is a new science which "has sprung out of modern inquiry in response to our necessities," (Michigan Fish Commission) and is one of the most useful as well as beneficial sciences undertaken during the last fifty years. It is but in its infancy, it is true, but it is "getting a big boy now," and is advancing with rapid strides, simply for the reason that some men gave their life's work to it—by repeated representations year after year—got grudgingly at first and far too sparingly

even yet, that assistance from the Governments of their countries, so essential to the development of the work in the interest of the commonwealth. The three men who stand above all others in this connection are, in the United States, Prof. Baird and Seth Green, and in Canada, Samuel Wilmot.

The demand for fish food is constantly on the increase, even more in proportion than the population, and to meet it on our great lakes an entire change of modes of fishing has been inaugurated instead of the Mackinaw boats and small gangs of gill-nets—and gill-nets alone—each man owning his own boat and in some cases two or three. The business is now in the hands of capitalists, one proprietor alone in Lake Huron fishing seventy-five miles of gill-nets! The pound-net, a deadlier device than the gill-net, is largely used, and the gill-net fishing is now carried on by steam vessels. Not only for home consumption are the enormous quantities caught, but for south, east and west; to inland cities and towns are they sent, not salted or dried and smoked as formerly, but in a more attractive form, which partly accounts for the increased consumption, and the increased price to the fishermen, I was going to say, but I will say companies. The fish are now either packed fresh in fish cars in ice, each having a capacity of about two tons, or they are frozen and held in refrigerators for future orders. The drain on the lakes has been enormous, and the inevitable result was taking place, viz., depletion, until the hatcheries commenced to replace artificially the artificial drainage. At first there was no greater enemy of the hatchery than the fishermen. They wanted a "free leg," and no close season—like those who killed the buffalo, they wanted to kill, slay and sell. Let those who come after look out for themselves! Fish got scarce before they thought they would, and now the cry from all the fishermen is, Give us hatcheries, and more hatcheries. Hatcheries and protection must go hand in hand.

The soil gives to the farmer its return for cultivation, but he must cultivate it and he alone has the right to the crop. The waters belong to the commonwealth and will return more than one hundredfold the cost of cultivation, but being common property can only be cultivated by the commonwealth, therefore it is fit and proper for the Government to increase this source of wealth, comfort and even luxury to the fullest extent for the benefit of the people. Not only should this be done on the great lakes, such as Winnipeg, Lake of the Woods, Manitoba, Winnipegosis, and the great eastern lakes, but over our prairie country there are hundreds, nay thousands, of streams and lakes which can be stocked with some variety of fish to the pleasure, profit and comfort of the settler. Artificial propagation has successfully solved the question of restoring the losses caused by constant overfishing, no matter whether the overfishing is in a trout stream a yard wide or in a lake like Huron, It has also in many a stream and lake placed fishes never known there before. In such States as Minnesota, Nebraska, North and South Dakota, Michigan and Wisconsin, the work of stocking and restocking is being increased yearly, and its value is day by day becoming more apparent.

To fully carry out the work so as to get the greatest benefit, all must not be left to the employees of the hatchery; the people must do their share, and without their assistance and co-operation it is but uphil lwork.

The hatcheries should be visited by the public as much as possible. All streams and lakes near, should be closely observed, the temperature taken in the warm months, the sources noted, the depth, width and nature of shores, fish at present there, etc. Such information if sent to the officer in charge of the nearest hatchery, with an application for suitable fry will be attended to and the information thankfully received. Different waters vary greatly in their characters and conditions, and fishes vary very much in their habits; therefore the successful stocking of waters requires much intelligent thought and experience. The planting must be followed by care and protection, and the repayment is pleasure of the use of your rod and a delicious addition to the table generally, at a time of year the farmer just relishes some change from bacon and salt meats. I trust the sportsmen and farmers over our great West will take an interest in this work, both for their own pleasure and profit, as well as to add one more attraction to the many we have to offer to the stranger from other lands; the trouble will be small in comparison with the benefit to be derived. Let them inform their representatives in Parliament that the work is a necessity and should be fostered, and to use their influence to that end, and thus benefit not only themselves but the country.

C.—FOREST AND STREAM.

SALMON FISHERIES OF ALASKA.

New York, 27th October, 1892.

Toward the close of the first session of the 52nd Congress the Senate directed the Commissioner of Fish and Fisheries to communicate to that body any information in his possession relative to salmon fishing in Alaska, its extent, and whether the methods of the fishery are likely to cause the diminution and eventual extermination of the salmon, together with his views as to the measures necessary for the protection of the fish and the permanence of the industry in Alaskan waters. In his report, transmitted in obedience to this resolution, the Commissioner discussed: 1. The origin and development of the fisheries. 2. The statistics. 3. The present condition. 4. The methods and apparatus employed. 5. The protective regulation of the fisheries, including recommendations as to further legislation in reference to them.

Appended to the report are papers by Dr. T. H. Bean, upon the life history of the salmon and the publications relating to the salmon of Alaska and adjacent waters.

The document is illustrated by a general view of the Karluk canneries, reproduced from a photograph made by Dr. Bean in 1889, and by 24 figures of the salmon, grayling, whitefish, trout, smelt and capelin of the territory.

This report taken in connection with an earlier one on the same subject, issued in 1890, completes the record of the Alaskan salmon industries to June of the present year. It shows that from 1883 to 1891 the yield of canned salmon was valued at $11,000,000, and was obtained chiefly at Kodiak Island and the Alaska Peninsula. Over 4,000,000 of red salmon were taken in and near the mouth of a narrow river, only about 20 miles long, in the summer of 1889.

Without regard to the permanence of the industry, the canners pursued destructive methods of fishing, involving the absolute prevention of natural spawning in the rivers, until Congress imposed restrictions upon their operations and overproduction reduced the market value of salmon below a profitable limit. The combination of protective legislation and limitation by agreement among the canners has placed a temporary check upon excessive and destructive fishing.

Alaskan rivers contain five kinds of salmon—red, quinnat, silver, humpback, and dog—and four kinds of trout—Gairdner's, red-throated, lake trout and Dolly Varden. All of these are valuable food fishes, but some of them outrank the others for commercial purposes. The territory has additional wealth in its numerous whitefish, grayling, smelt, oulachon and caplin, bringing its aggregate of species of the salmon family as high as that of any other country of equal area.

The existence of the anadromous salmon is dependent upon their free access to their natural spawning grounds in the gravelly shoals of rapid rivers or in the cold, snow-fed lakes from which they flow, "and in this natural law is to be found the suggestion of such legislation as may be necessary 'to maintain the salmon fisheries under permanent conditions of production.'"

Protective regulation of the fisheries, in the opinion of the Commissioner, must provide for adequate reproduction of the salmon either by permitting the spawning fish to ascend to their breeding grounds or by artificial propagation and distribution of the young to their feeding places on a scale to compensate for the limitation of natural reproduction by the operation of the fisheries."

"If it be the policy of the Government to depend upon natural reproduction to maintain supply, this can be made effectual only by the enactment and enforcement of such regulation of the fisheries as will assure adequate reproduction under natural conditions. The different agencies which may be invoked, either separately or in conjunction, to accomplish this end are:

(a) A weekly close season from Saturday evening to Monday morning.

(b) A close season during September and October of each year.

(c) The establishment of national salmon parks or salmon reservations, as proposed by Dr. Livingston Stone.

(d) Absolute prohibition of the capture of salmon by the use of nets or other apparatus within 100 yards of the mouth of any river.

(e) The prohibition of the use of more than one seine in the same seine berth.

(f) The leasing of the privilege of taking salmon and the limitation of the catch, in accordance with the recommendation of the Commissioner of Fisheries, based upon continued and careful investigations of the conditions of the fisheries.

The establishment of national salmon parks was proposed in a paper read by Dr. Stone before the American Fisheries Society, and published in *Forest and Stream*, June 16, 1892.

The Commissioner believes that the future of the salmon can best be assured "by limiting the catch in each stream to its actual productive capacity under existing conditions, and by leasing the privileges of taking the salmon to the highest bidders." We cannot leave this important subject without again calling attention to the fact that the existence of the native population of Alaska is equally involved with the permanence of the salmon industry in the policy of the Government in dealing with fishery methods.

What D. C. Knowles says about Trapping Salmon.

D. C. Knowles, who owns land along Russian River for two miles, commencing a mile and a half above the mouth of the river, says that the number of salmon, or steelheads, reported to have been taken at the mouth of the river has been greatly exaggerated. He says that the bar at the mouth of the river was cut early in the season by the first high water, and thereafter, and for some time the river ran full. This gave incoming fish a chance to go up the smaller streams leading to the river, which were also full, and afforded very little opportunity for fishermen to trap them. If the water is low and they get into the river and are not able to enter the small streams, they remain in the fresh water at the mouth of the river, and great numbers can be trapped, but that was not the case this season. The fish wait off the mouth of the river for the opening of the channel, and as soon as it cuts through the bar they enter; if the stream is full and all the small streams running the fish go immediately into them and up so far as they can go to spawn. The first run of fish is always the heaviest, after that they come in greatly reduced numbers through January and into February, when they cease altogether. This year the fish were not delayed in the river and but few have been taken. Mr. Knowles says no gill-nets have been put entirely across the stream as has been reported, and for one day in the week no nets at all are set. He thinks as many fish come into Russian River now as ever came, and attributes the decrease of brook trout to the excessive summer fishing up the mountain streams rather than to the netting of the comparatively few fish taken at the mouth of the Russian River. At all events, this year but few have been caught, and the condition of the season gave the opportunity to stock all tributaries of the main stream, and if fish are not abundant in the next two or three seasons the cause can not be laid against the Russian River fishermen. There are not more than ten or twelve men engaged in the business, and at least four of them are Indians. The very largest number of fish caught to a net is 100 pounds, and often not more than four or five fish. So, says Mr. Knowles, all this talk about tons of fish being taken is not true.

Protect the Food Fish.

The decline of our fishery resources has become so marked that strong measures are needed to restore them. The salmon has become so far reduced that this most

valuable food fish is certain to become extinct in a few years in California rivers unless a radical change is made. Trout have become extinct in many streams of the State, and in spite of a close season of five months the fish will disappear from the streams in which they are now found unless a better protection is afforded them.

There is no mystery about the cause of the decline of the salmon. It is found in the salmon canning factories on the banks of the California streams. The profits of the business multiplied their numbers till the slaughter of the fish was greater than the reproductive powers of nature. When the salmon began to decline in numbers the salmon canners, so far from protecting their future interests by limiting their catches, increased their efforts to take the fish that they might run at full capacity. The immediate profit of a full catch weighs stronger than the future existence of the industry. The efforts of the Government to preserve the industry by the hatchery stations on the McCloud River have only delayed the extinction of the fish. It has become increasingly difficult to secure spawn, and last year the slaughter was so merciless, and the efforts of the canneries to prevent fish from escaping to breeding grounds were so successful that only a few hundred thousand eggs were secured in place of the millions that were needed.

Radical measures should be taken to secure the supply of fish. It is a too valuable source of food supply to be allowed to perish when simple remedies can save it. All that is needed is to allow the salmon to breed without interruption for a few years. The canneries should shut down, the catch of fish for the markets limited to a part of the year, and the use of nets strictly regulated and limited. The Mountain View *Register* suggests that the canning of salmon should be prohibited for five years. This period is none too long to restore the ravages that the methods of canners have made. The *Register* likewise suggests that the protection of trout could best be secured by putting a heavy penalty on the possession of trout under six inches in length. This is a measure that would go far to keep up the supplies and prevent the fishing out of streams.

The legislature should devote some attention to this subject.

D.—THE ARTIFICIAL PROPAGATION OF MARINE FOOD FISHES AND EDIBLE CRUSTACEANS.

By Rev. Moses Harvey, LL.D.

(Read 1st June, 1892.)

The art of pisciculture, in its modern restricted sense, commenced a century and a half ago with the discovery of an artificial method of fecundating and hatching the ova of fish. Fish-culture of a simple elementary character had been known and practised long before, indeed from a remote antiquity. This, however, does not appear to have gone further than the inclosing of fish in artificial aquariums, or in ponds where they were fed and tended till required for use. The art of acclimatization as regards fish, was understood to a limited extent. Favourite breeds of different kinds of fishes were fattened and flavoured in order to gratify the palates of epicures. The luxurious Romans spent enormous sums on their fish-ponds and oyster-beds. The ancient Egyptians are known to have reared fish in artificial inclosures on an extensive scale. If we may believe what is told us of the Chinese, it would appear that for many centuries fish culture of an ingenious kind has been carried on in China by collecting fructified fish eggs from lakes and rivers, carrying them to the interior, and selling them to proprietors of canals or ponds in which they are hatched and grow to maturity. The result is stated to be an abundant supply of fresh water food fishes in many portions of China.

With the discovery of the process of artificial fecundation of fish ova, pisciculture took a new departure, and by slow and painful steps has reached its present stage, which renders it an art of high national importance and gives promise of its becoming a potent factor in the future for securing sustenance for the teeming populations of the world.

As in the case of many other valuable discoveries, some doubt exists as to who is to be credited with the honour of this discovery. The French claim that Joseph Remy, a peasant of the Vosges, was the discoverer about the year 1842 ; and that with him originated that artificial system of fish-breeding which extended over their chief rivers, and at length culminated in the celebrated establishment of Huningue, near Bâle, for the collection, hatching and distribution of fish ova.

There can be little doubt that Remy's was an independent rediscovery, and that he carried it into a practical application which proved fruitful in results. He had been anticipated, however, by almost a century, by Ludwig Jacobi, of Westphalia, in Germany, who, about the year 1748, carried out successful experiments in breeding salmon and trout. For eighty years he and his sons carried on the enterprise, on his own estate, as a commercial speculation, with great success. He also wrote an elaborate essay on the art of fish-culture which attracted the attention of many scientific men. His discovery was the result of keen observation. He found that the fecundation of salmon ova was an external act that could be readily imitated by careful manipulation, and that by this method fish could be multiplied to an unlimited extent. To Jacobi, then, must be awarded the honour of first discovery.

There is little doubt, too, that in 1837, John Shaw, of Drumlanrig, Scotland, a forester of the Duke of Buccleuch, independently rediscovered the process. He had undertaken to prove that parrs were the young of salmon, and conducted a long series of experiments with this view, in the course of which he fecundated and hatched the eggs of salmon. He did not, however, go farther than to establish scientifically the principle involved, while Jacobi and Remy turned it to practical economic account. Shaw's experiments, however, were completed and reported to the Royal Society of Scotland before Remy's discovery.

To France, however, must be accorded the honour of erecting at Huningue the first fish-breeding establishment in which the art was turned to practical economic account, and its usefulness to the general interests fully established. The advantages of the artificial method, in the rapid multiplication of fish, and in the preservation of the ova and young fry from the destruction inevitable in the natural process, became speedily apparent. The Government of France speedily took the new discovery under its fostering care, and immediate and substantial success followed. The rivers and lakes of France were soon extensively cultivated, and fish-ponds of considerable extent were constructed. The system quickly spread over the whole continent of Europe, and everywhere aquiculture began to yield highly profitable returns.

About 1850 the fine breeding establishment of Stormontfield, on the River Tay, near Perth, commenced operations and was conducted with admirable skill and marked success. In the same year Norway embarked in the enterprise under government patronage. Three years later (1853) the United States entered on the work, and developed it with characteristic energy and on a scale previously unknown. In 1863, Canada commenced public fish-culture, and can now boast of possessing a thoroughly organized system, skilfully conducted on scientific principles, fully abreast of the age and yielding most satisfactory results.

The evolution of fish-culture has thus been a very slow process. Though almost coeval with civilization in its inception, it made no marked progress till Jacobi's discovery, in 1748 ; and afterwards it required a century before it attracted the attention of the world and received any general acceptance. Even now it encounters much opposition, and in many civilized countries is still regarded with such doubt and distrust that it makes little progress. This, however, is the fate of all new ideas which have to do battle with apathy, ignorance and self-interests, and the innate indisposition of men to leave the beaten paths. As a rule, mankind know not their benefactors, and regard all innovators as disguised enemies or open destructionists.

At first fish-culture was generally carried on as a private enterprise for individual profit. Gradually, however, its importance was discerned, and its promotion and control were, in some countries, assumed by the state for the benefit of the whole community. If lakes and rivers which were open to the public, and in which no one could claim the right of property, were to be stocked artificially, the work must be done, not by private enterprise, which was inadequate, but by governments, out of the public funds to which all contribute. Thus, fish culture on an extensive scale, with costly apparatus and a staff of officials and employees, became, in time, to be regarded as a function of the state. Scientific men and skilled experts could alone conduct operations successfully ; and as these were performing a work which was designed for the benefit of a community at large, it was felt to be right that the cost should be met out of the public funds.

National fish-culture has thus obtained a recognized place, and is steadily advancing in most civilized countries. Water-farming may, in the near future, under the guidance of science, approach the dignity and importance which are now attached to the cultivation of the soil. Food-factories will no longer be confined to the land, but, at the bidding of science, the waters will "bring forth abundantly the moving creature that hath life," and with fresh emphasis the ancient precept will be repeated, "cast thy bread" (or seed) "upon the waters, thou shalt find it after many days."

The first efforts of fish-culturists were limited to fresh water food fishes, such as trout, or to the anadromous species such as the salmon. By far the most extensive operations were conducted in the artificial breeding of salmon as being a money-yielding fish of great commercial value. Strikingly successful results were reached, both in Europe and America, in restocking exhausted rivers with salmon, in keeping up the supply where heavy drafts threatened scarcity or depletion, and even in establishing fisheries in waters where salmon were previously unknown. Of course, due protection was combined with artificial breeding. Judicious legislative enactments were adopted to regulate the times and modes of fishing and to secure the removal of obstructions to the ascent of the fish to their spawning grounds. The salmon rivers of Scotland, such as the Tay, where salmon-culture has been carried on for many years, present the most striking instances of the value of artificial breeding ; while the Doohullah Lakes in Ire-

land furnish an example of the creation of a valuable fishery by placing artificially bred salmon fry in waters where no salmon had been previously seen.

Similar successful results have been reached in many of the rivers of continental Europe. Still more remarkable have been the results of fish-culture on this side of the Atlantic. Every state in the Great Republic has now its Fishery Commission and numerous hatcheries with qualified experts in charge ; while in connection with the United States Fishery Commission—a national institution—a band of scientific men devote their energies to the investigation of fish-life in all its varieties, and a study of the physics of the sea. The work accomplished by this commission has called forth the admiration of the civilized world. The founder—the late Professor Baird—a man of the highest attainments as a naturalist—has been succeeded by Colonel Marshall Macdonald, whose great ability and matchless zeal are admitted on all hands. The Canadian Department of Fisheries has accomplished a work only second to that of the United States Commission ; and in the intelligent organization and guardianship of the fisheries, and the practical improvements it has introduced, it has shown what science and practical skill can do in the guidance of these great national industries. Under the veteran fish-culturist, Mr. S. Wilmot, a man of European reputation—Canadian pisciculture now compares not unfavourably with that of any other country.

In the United States fish-culture has been for years carried on in salmon, shad, alewives, whitefish and carp. In Canada the artificial propagation of salmon and of the valuable whitefish in the great lakes, has been conducted on a large scale and with successful results. Both the United States and Canada contribute to the maintenance of the highly valuable whitefish fishery of the great lakes by planting each year in their waters many millions of young fry. But for this artificial supply, the enormous drafts on this fish, by the fishermen of both countries, would long since have caused a decline which must ultimately lead to the extinction of an industry now employing thousands of men and a large fixed capital, and furnishing immense supplies of wholesome and agreeable food to an increasing population.

While the culture of fresh water fishes has thus been increasing in importance, a very striking advance in the art has been made in recent years, by extending its operations so as to embrace marine food fishes. It is needless to say that this enormously widens its field of operations and increases its prospects of usefulness to an unlimited extent. If the food fishes of the sea and edible crustaceans can be multiplied artificially, then we can imagine a time when the coastal waters will become great sea-farms, yielding enormous supplies of food for man, and even in the end approaching those of the land in value, and when salt and fresh waters everywhere will be cultivated with as much assiduity and skill as are now the continents and islands of the globe.

This is no mere flight of fancy. Keen-eyed science has taken the matter in hand, and is subjecting to her scrutiny the entire life-history of those finny tribes which can be made subservient to human necessities. Nothing escapes her observation. The minute eggs, transparent as crystal, and hardly discernible by the naked eye, which are cast into the waters in countless myriads, are patiently studied from the moment when the first movements of the mysterious principle of life begin, on through their phases of development till they reach the stage when they are able to "repeat the story of their birth." Science will not rest satisfied till the full biography of these nurslings of the sea is completed. Her investigations include not only their embryology, but their whole surroundings—their food, habits, migrations, their rate of growth, their friends and enemies, their birth and death-rates, as well as the physical condition of the waters in which they have their being. All the knowledge thus acquired is then to be applied practically, so as to guard them from injurious influences and destructive modes of capture ; and above all, to the multiplication of their numbers and the restocking of exhausted waters, in cases where fisheries have ceased to be remunerative. Even the planting of maiden waters with new life-germs, and the improvement of breeds by crossing are within the scope of this new art.

Fish-culture has thus a wide range, and it is not unworthy the attention of the keenest scientific intellects. Its aim is noble—an extension of man's dominion over nature with a view to the increase of human resources and the food supplies of nations. As yet it is but in its infancy ; but it gives promise of a vigorous growth. What it has

achieved is a pledge of what it is destined to accomplish. Of course it has its limitations, just as farming and stock-raising; and there are many difficulties and obstacles yet to be overcome. Now, however, that it has given proof that it can deal successfully with the great sea fisheries—such as those of the cod, herring, mackerel, haddock, as well as with the anadromous fishes and the more valuable crustaceans, it is difficult to set bounds to its possible achievements. Certainly no other art gives promise of such beneficial results, of a practical character, as fish-culture.

The honour of carrying fish-culture into this new domain must be awarded to the late Professor Baird, though experiments with the same object in view were commenced about the same time at Flodevig, Norway, as in the United States. Professor Baird, however, led the way on this side of the Atlantic; and he and his colleagues, after a long and patient struggle with obstacles and difficulties, won a brilliant victory, and demonstrated to the world that the food fishes of the sea were as amenable to control as the anadromous and fresh water fishes, and could be artificially multiplied to an indefinite extent. A vastly greater field of usefulness was thus thrown open to fish-culturists. Not only so, but Professor Baird was able to formulate the great law of fish-life on which the new departure rested, and thus to remove it from the region of empiricism, and give it a solid scientific foundation. This great law he stated in the following terms: "In regard to the sea-fisheries, one important principle should be carefully borne in mind, and that is that every fish that spawns on or near the shores has a definite relationship to a particular area of sea-bottom; or in other words, that as far as we can judge from experiment and observation, every fish returns, as nearly as possible, to its own birthplace to exercise the function of reproduction, and continues to do so, year after year, during the whole period of its existence. A second law equally as positive, with a great variety of fish, is that they pass from their spawning grounds to the sea by the shortest route that will take them out into the deeper waters where they spend the winter, and that coming and going to and from a given locality, they follow a determinate and definite line of migration."

Having established this important law by a long series of careful observations, Professor Baird deducted from it the following corollary: "The supply of fish in a given bay, or along a certain stretch of the coast, may be reduced to a considerable degree, and although it may be perfectly true that the sea is practically inexhaustible of its fish, yet when the fish of a particular region are cleaned out, there is no hope that others will come in from the surrounding localities to their places, since those already related to a given undisturbed area continue in that relationship, and have no inducement to change their ground. It should, therefore, be understood that the exhaustion of a local fishery is not like dipping water out of a bucket, where the vacancy is immediately filled from the surrounding body, but is more like taking lard out of a keg where there is space left that does not become occupied by anything else."

The latest and most advanced investigators of the biology of the sea strongly confirm Professor Baird's views, and establish the law which he expressed in the foregoing terms. More and more it becomes evident that the migrations of fish which spawn near the shore are of a limited character, being mainly from deep to shallow water and *vice versa*; that they are *local*, in the sense of "having a definite relationship to a particular area of sea-bottom," and that they return to the waters in which they had birth, and in which their early days were spent, to perform the most important function of their existence. The objection, therefore, so frequently raised, that it is useless to attempt stocking artificially an area of sea, whether in bays or coastal fishing-grounds, as the young fry will disappear in the wide ocean, falls to the ground. The notion that these fishes are wild ocean-rangers, constantly engaged in extensive migratory journeys, must be discarded No doubt there are pelagic fish which spawn in the open sea, far from shore; but all, or nearly all our valuable food fishes are local. Hence, by artificial means, we can multiply their numbers in any given locality suited to their existence.

Another mistaken view must also be got rid of, namely, that exhausted fishing grounds have only to be allowed to remain unfished for a time and they will recuperate without any aid from man, by fresh arrivals from other localities. Experience has shown that fish in surrounding localities will not change their ground to fill up vacancies; but in obedience to the law of their existence, will continue in their own habitat. Without

artificial propagation therefore, when exhaustion is extreme, restoration is impossible; and even in cases where depletion is but partial, a long term of years is needed to secure improvement, which may be greatly shortened by artificial means. Besides, the question presents itself, what is to become of the fishermen while the fishing-grounds lie fallow? Scientific fish-culture presents the remedy by planting millions of young fry in the depleted waters, which, in a brief period, will restore the exhausted fisheries. This process can be continued, year after year; and even heavy drafts will fail to bring exhaustion, when the stock is in this way constantly replenished.

These are not mere unsupported theories. They have been amply sustained by the results which have attended the artificial hatching of codfish in the United States and Norway. The cod is the grand staple of marine industries on this side of the Atlantic. Many thousands of men and a vast amount of capital are employed in the cod-fisheries of North America, the annual returns being not less than twenty or thirty millions of dollars. During many years past this industry has shown serious symptoms of decline, especially on the coasts of New England. In many localities where cod were once abundant, they are now scarce or have altogether disappeared. Even the great cod-fisheries, such as those around the shores of Newfoundland, and at Lofoden in Norway, have, in recent years, presented signs of decline which must be regarded with feelings of apprehension in looking to the future. In view of these facts, the question, can science provide a remedy? presents itself with fresh emphasis.

In 1878, Professor Baird entered on a lengthened series of experiments designed to determine the practicability of the artificial propagation of cod on a large scale. In one of his earliest reports he remarked: "Whatever may be the importance of increasing the supply of salmon, it is trifling compared with the restoration of our exhausted cod-fisheries; and should these be brought back to their original condition, we shall find within a short time an increase of wealth on our shores, the amount of which it would be difficult to calculate."

Great difficulties were encountered in hatching the cod ova, but they were overcome; and after the experimental stage had been passed, Profess r Baird was able to report that the feasibility of the artificial propagation of the cod family was fully established. "It is now," he said, "believed to be possible, not only to greatly increase the supply of the cod where it is at present found, but by carrying the young to new localities, to establish cod-fisheries so far south as the coast of North Carolina, where the fishermen may find regular occupation during the winter, now their poorest season in capturing these fish in large quantities, and supplying the adjacent markets, and even exporting them." At a later date he said, in reference to the artificial breeding of marine food fishes: "We have at our command the means of so improving and increasing the American fisheries as to obviate the necessity, in the future, of asking a participation in the inshore fisheries of the British provinces, and thus of enabling us to dispense with fishery treaties or fishery relations of any kind with the British or other governments."

The progress of the artificial breeding of marine food fishes since these words were written, proves that Professor Baird was not over-sanguine when thus prognosticating the future. The success of the Gloucester, Wood's Hall, and Ten Pound Island hatcheries is now a matter of history. Many millions of codfish have been hatched and "planted," and the benefit is already felt in the fishing grounds off Cape Ann, and at Nantucket Shoals, where we are told, on the best authority, "millions of these species, of one and two years' growth, are reported as being on the fishing grounds near the coast, while young cod have been taken in traps and otherwise, where the oldest fishermen have no recollection of seeing them before. The restocking of the shore grounds is proving a bonanza to the local fishermen, their catches being greatly increased." The shad fishery from Connecticut to North Carolina is reported to have increased twenty-five per cent in five years, in consequence of artificial propagation.

Not less remarkable has been the success of cod-hatching in Norway, where it was carried on in the Flodevig hatchery simultaneously with the work in the United States, and with equal skill and perseverance. In the spring of 1891, 620 litres of cod-spawn were dealt with, representing 279,000,000 eggs. At a part of the Norwegian coast between Sornskill and Hambo, 166,500,000 cod-fry were planted, in addition to 26,000,000 in other places. From 1884 till 1890, there were hatched in all 140,000,000 ova. As a

consequence of these satisfactory results, the hatchery at Flodevig has been doubled in size, and a large pond has been constructed in which the cod are placed and allowed to spawn in the natural way, instead of undergoing the "stripping" process as formerly. The eggs when fertilized by contact with the milt in the pond, are skimmed off and placed in the hatching boxes. By this improved method, there is a gain of from twenty to forty per cent in the number of eggs hatched, the injury to the ova through handling the fish being avoided.

The confidence of the Norwegians in this method of increasing their sea-fisheries may be judged from the fact that this year (1892) they are engaged in the erection of another cod-hatchery at Dobak, sixteen miles from Christiania, sufficiently large to turn out four hundred millions of cod-fry annually. This is done with the view of restocking the Christiania Fiord, where there has been a great falling off of late in their number; and the supply of fresh cod to the markets of the capital and other towns on the Fiord, has been getting shorter every year, and the prices for codfish exceedingly high. In connection with this hatchery there will be erected a Biological station, where students from the University of Christiania will have an opportunity of studying, and of obtaining a practical and scientific knowledge of Ichthyology and Marine Biology, in all their branches, and where fresh specimens of marine fauna will be constantly on hand. This is not all. Another hatchery, with a fishing school attached, is in course of erection at Bodo, and will be in full operation in 1893. As Bodo is only a short distance (ten miles) from the Lofoden Islands, where the greatest of the Norwegian cod-fisheries is carried on in winter and early spring, it will be an easy matter to furnish the hatchery at Bodo with spawn from Lofoden, as all the fish caught there are spawning fish.

When we compare the work done in the United States, Canada and Norway, in connection with fish-culture and the improvement of the fisheries, with similar work in Great Britain, the contrast is surprising. In all matters relating to fish and fisheries, Britain is far behind the countries named. At one of the Fishery Conferences, during the London Exhibition of 1883, Professor Huxley remarked that "if they were going to deal seriously with the sea-fisheries" (of England) "and not let them take care of themselves, as they had done for the last thousand years or so, they had a very considerable job before them; and unless they put into their organization of fisheries, the energy, the ingenuity, the scientific knowledge and the practical skill which characterized Professor Baird and his assistants, their efforts were not likely to come to very much good." At the same conference, Mr. S. Wilmot, of the Canadian Department of Fisheries, expressed his surprise that "in a vast and intelligent country like Great Britain, the Government had not taken up this question of protecting, improving and advancing the interests of the fisheries." He was of opinion that this was a work rather for the State than for private persons, and he was supported in this view by Professor Brown Goode, the Director of the United States Exhibit.

It is no doubt true that in England, for years past, successive Fisheries Commissions have been appointed; but these have devoted their energies to taking the evidence of fishermen and others engaged in the fisheries, and embodying it in voluminous reports, from which nothing of a practical nature came. Professor Huxley, who took part in this work, in his inaugural address at the London Exhibition of 1883, expressed the astonishment he felt on discovering that fishermen know nothing about fish except the way to catch them. "In answer to questions," he remarked, "relating to the habits, the food and the propagation of fishes—points of fundamental importance in any attempt to regulate fisheries rationally—I usually met with vague and often absurd guesses in the place of positive knowledge."

Very different has been the method adopted in Norway, the United States and Canada. In Norway, instead of appointing a commission to take the evidence of fishermen, a body composed of four distinguished men of science was appointed to investigate the biology and physics of the sea; and on their reports was founded the organization of the fisheries which has led to such important results, and those experiments in the culture of marine food fishes which are yielding such abundant fruits. One brilliant outcome of this commission which has been carrying on its operations for more than twenty years, was Professor Sars' great discovery that the eggs of the cod, the haddock, the gurnard, and most food fishes with the exception of the herring, instead of resting on the bottom,

as had been previously universally believed, floated, in almost invisible globules, at or near the surface of the sea. The discovery laid the foundation of the scientific culture of marine food fishes.

In the United States, the same method was followed. A distinguished naturalist—Professor Baird—was, in 1871, placed at the head of a commission who wasted no time in taking the evidence of fishermen, but set to work on an investigation of the causes which had brought about a diminution of the commercial fishes and of the remedies adapted to remedy the evil. The result has been a thoroughly equipped department, with a large staff of scientific and skilled men, having the means of carrying on hatching operations on a large scale, both in fresh and salt water fish, and for studying the whole natural history of the various fishes. The splendid reports of this commission, issued annually since its commencement, are of inestimable value. Up till 1883, Congress and the various State Governments had appropriated over two and a quarter millions of dollars for the work of the Fishery Commission. Since that date there has been no diminution in the liberality with which the work has been sustained.

It would seem that at length Great Britain has been roused to the necessity of regulating and improving its fisheries on the same scientific lines as other countries. The inauguration of a Fishery Board for Scotland a few years ago, marked the commencement of a new era. Under such eminent naturalists as Dr. Wemyss Fulton, Secretary for scientific investigations, Professor McIntosh, LL.D., Mr. J. H. Fullerton and D. J. Beard, excellent work is done in the investigations of the life-history of the various food fishes, from which important results will follow. The Annual Reports of the Scottish Fisheries Board contain matter of profound interest to the scientific fish-culturist.

Last year, this Board decided on adopting the artificial breeding of valuable sea-fishes with a view to the improvement of the Scottish fisheries. They had been for some time closely observing the work carried on at Flodevig, Norway, in cod-hatching, and had received official reports from time to time. The issue was a resolution to take up the same enterprise. By an arrangement with Mr. Dannevig, manager of the Flodevig hatchery, a wooden building with a complete hatching apparatus, was constructed at Arendal, Norway, and has recently been shipped to Scotland, where it will be in operation before the end of the present year. The Governments of France, Russia, Italy and Belgium, have been in communication with Mr. Dannevig, with the view of procuring from him plans and directions for fitting up and working similar establishments; and it is possible that these countries will shortly have marine hatcheries in active operation.

England is at last moving in the same direction. At a conference held in the Fishmongers' Hall, London, in March last, the following resolution was unanimously adopted: "That this conference, in view of the diminution of food fishes, is of opinion that sea-fish hatcheries should be established, as in Norway, the United States, Canada and Newfoundland, for the purpose of increasing the fish supply; and that it is of the greatest importance to the fishing industry that marine laboratories should be established at suitable points round the coast of the United Kingdom, with a view of affording information to practical fishermen and others, regarding the habits and life-history of food fishes." At Liverpool a marine laboratory has been established, and another at Plymouth. Sir Edward Clarke, M.P., said, at this conference, that the Plymouth institution had shown that fish could be hatched in large numbers; and he thought that the Government would be doing a great public service if it assisted in establishing hatcheries, so as to produce results similar to those produced in America.

In France, M. Gobin, Minister of Fisheries, has recently expressed strong opinions as to the diminution of fish around the shores, brought about chiefly by the increase of populations, the larger and better equipped boats and the application of steam and trawls. He looks upon the artificial hatching of sea-fish as the best remedy, combined with the protection of areas as nurseries. The State alone, he thinks, can undertake such work, and he urges the establishment of hatcheries in which the propagation of sea-fish can be systematically carried on upon an extensive scale. Physical research, respecting marine and inland waters, is now extensively carried out in France, with a view to its practical application in the increase of fish by culture.

It is thus evident that the culture of sea-fish is established on a solid scientific foundation. The day is gone by for assailing it as insanity, and its advocates as wild, speculative enthusiasts. In all civilized countries having an interest in fisheries, scientific investigations are in progress ; and the improvement, regulation and extension of these great industries are becoming more and more objects of national importance. England's colonies, one after another, are entering on the work.

Newfoundland, Britain's oldest colony, has been tardy in entering on the work of organizing and regulating its fisheries and employing artificial propagation for their improvement. This work, however, was at length commenced three years ago, by the appointment of a Fisheries Commission, who have already achieved a very gratifying measure of success, and are engaged in organizing a system which, in the future, cannot fail to secure beneficial results. Indeed, the work of the Newfoundland Fisheries Commission, as described in their annual reports, has already attracted attention on both sides of the Atlantic, and won the commendation of some of the foremost men who are engaged in similar work elsewhere. In one branch—the artificial propagation of lobsters —Newfoundland is ahead of all other countries. The method introduced by Mr. Adolph Nielsen—the able Superintendent of Fisheries—is likely to be adopted generally wherever it is found practicable. Cod-hatching too, though only two seasons in active operation, has made good progress, and gives promise of valuable results in restocking the partially exhausted bays and fishing grounds around the coast. It may also be mentioned that a pamphlet on "The cur · of codfish and herrings," drawn up by Mr. Nielsen and published by the commission, has been reprinted, by permission, by the Fisheries Department of Ireland, and widely circulated among Irish fishermen. The same work has been translated into French and circulated at St. Pierre and elsewhere.

Previously to the organization of a Fisheries Commission in Newfoundland, the fisheries had been left to take care of themselves. Naturally, these fisheries rank among the finest in the world ; but reckless and destructive modes of fishing pursued by successive generations ; the want of intelligent guardianship and legal protection ; the absence of any definite knowledge of the fish and fisheries, based on scientific observations ; and the utter neglect of any means of organizing and directing these great industries, at length resulted in an alarming decline of the cod-fishery, especially in the great bays and inshore fishing grounds, and a marked deterioration of the herring, salmon and lobster fisheries.

The present writer may mention, without egotism, that he took an active part, year after year, in pressing these matters on public attention, and urging the necessity of appointing a Fisheries Commission, under whose care the fisheries might be placed. The appointment took place in 1888, and he has acted as secretary up to the present time. Fortunately the services of an able Superintendent of Fisheries were secured in the person of Mr. Adolph Nielsen, formerly an inspector of Norwegian fisheries, a man of high character, and possessing a thorough scientific and practical acquaintance with all departments of fisheries. A brief account of the work done by this commission in the artificial propagation of codfish and lobsters may prove interesting as a further illustration of the topic under consideration.

At the outset, it may be well to notice an objection to the culture of sea-fishes which is often repeated. It is alleged that the most valuable of the sea fish—such as the cod—are so prolific that even the most destructive operations of man can make little or no impression on their numbers. The female cod, for example, according to size, yields from two to nine millions of eggs each season. The salmon deposits a thousand eggs for every pound of its live weight. The sole gives a million of ova annually ; the flounder a million and a quarter ; the mackerel half a million ; the herring thirty-five thousand ; the turbot fourteen millions, and a conger eel 28 lbs. in weight yields fifteen millions of eggs each season. The crustaceans are hardly less prolific than the finny tribes. An oyster gives birth annually to a number of eggs varying from half a million to a million. The female lobster yields from twelve thousand to twenty-five thousand ova each season. Crabs, periwinkles, mussels, have an amazing fecundity. Such being the case, it appears at first sight an absurdity to attempt to add, by artificial arrangements, to the population of the sea, when the natural rate of increase is so prodigious.

There is, however, another side to be heard from. The more extended the studies of naturalists regarding fish-life, the more apparent does it become that the waste and destruction constantly going on in the sea, of life in all its stages, from the spawn to the full-grown fish, is enormous. If nature produces with reckless prodigality, her destructive processes are on a corresponding scale. If there is no economy observed in the arrangements for the maintenance of life in the sea, neither are there bounds set to the destroying agencies. A silent war is ever raging in the ocean, and the slaughter is beyond all calculation. One race preys on another; and life can only be sustained by the destruction of some other form of life. In the great world of waters, with its shallows and its depths, its vast plains, its hills and mountain ranges, how marvellous the diversities of life! But there death and terror are ever raging, under the most placid surface. The inhabitants live

> "A cold, sweet silver life, wrapped in round waves,
> Quickened with touches of transporting fear."

The work of destruction ever goes on, not only through animated forms, but by the physical forces of nature. Birth and death follow each other in mysterious rhythm, even in the profoundest ocean depths :—

> "Creator and destroyer, mighty Sea!
> That in thy still and solitary deep
> Dost at all being's base thy vigil keep,
> And nurturest serene and potently
> The slumbering roots of vast Creation's tree.
> The teeming swarms of life that swim and creep,
> But half aroused from the primordial sleep,
> All draw their evanescent breath from thee.
> The rock thou buildest and the fleeting cloud;
> Thy billows in eternal circuit rise
> Through nature's veins, with gentle might endowed,
> Throbbing in beast and flower in sweet disguise;
> In sounding currents roaming o'er the earth,
> They speed the ultimate pulse of death and birth."

Let us take the eggs of the codfish as an illustration. These are thrown from the mother-fish into the sea by thousands of millions. They float on or near the surface in the form of minute transparent globes, exceedingly delicate and buoyant. They dance about in the upper waters, and are driven far and wide by winds and currents. Their tendency is ever towards the surface, so as to reach the vivifying influence of heat and light. What becomes of these enormous multitudes of delicate egg-globes, hardly perceptible to the naked eye? Vast numbers of them fail to come into contact with the milt of the male which is also thrown into the same waters, the act of impregnation being external. The eggs quickly perish unless they are touched by the vivifying male element. They require from three to five weeks to hatch after being fecundated. All this time they are floating near the surface, and countless myriads of them are thrown ashore by winds and currents, or carried out to sea where the conditions are far less favourable for either eggs or young fry, than in sheltered areas inshore. Meantime, fishes and sea-birds are devouring the eggs by millions, for to these enemies they are delicious morsels. When the young burst from the egg, their movements are impeded for the first ten days by the yolk-sack which they carry; so that they cannot escape from their enemies, and the mortality among these handicapped water-babies is inconceivable. Surrounded as they are by hungry foes, "the slaughter of the innocents" goes on incessantly.

The consequence is that notwithstanding the fecundity of the cod, its actual yield of mature fish is small. Only a small number of all that are cast into the sea survive to become full-grown codfish. It has been estimated by competent judges, that out of a million eggs only one mature cod will be produced.

It is not surprising then to find that when to this natural waste, man's destructive enginery is added, and vast numbers of the young are captured before they have reached the period of reproduction, as well as of the parent fish, even an abundant cod-fishery may begin to decline, and finally be ruined. This has actually occurred on the coasts of New England, and in many other countries. Man's destructive agencies turn nature's delicate balance, and decline and extinction follow.

Now here it is where the artificial process shows its value. Every sound egg taken from the fish in the hatcheries, is fertilized by bringing it into contact with the milt, and from fifty to eighty or ninety per cent of the ova are hatched. The young are cared for and protected in their early feeble stage, and placed in the waters when able to take care of themselves; and thus their chances of survival are immensely increased. The cod being a local fish, the stock can thus be increased in any given area, and exhausted waters can be restored to former abundance.

If we take the herring, the mackerel, or the various species of flat fishes, we find the destruction of life among these is not less than among the cod tribes. The survival of one life germ, out of a quarter or half a million of those produced, so that it reaches the stage of maturity, is found to be the average in many species of the more prolific fish. If this were not the case, the waters of the ocean would have been long since over-populated, and life rendered impossible. Even in the case of the salmon, "the monarch of the brook," it has been computed by a high authority that the yearly yield of the largest salmon-producing river in the United Kingdom is about equal to the produce of one female fish of from 15 to 20 lbs. in weight, the produce of all the rest being lost or wasted. Sometimes an ill-timed freshet will destroy many millions of eggs, by tearing them from the gravel and laying them bare to a whole host of enemies.

It becomes apparent, therefore, that the argument against the artificial propagation of the valuable sea-fishes, on the ground of their superabundant fecundity, has no substantial foundation.

The cod-fisheries of Newfoundland furnish a striking illustration of the foregoing views in regard to the possibility of exhausting waters in which the fish-life was once superabundant. For three centuries and a half, the famous banks and the waters around the shores of the Island have been fished, mainly, but by no means exclusively, for cod. In regard to the Great Banks, those best qualified to judge are of opinion that the supply of codfish there is far from being so abundant as formerly, and that the decline, though slow, is steadily going on, even in this wonderful "Home of the codfish." However this may be, there is no room for doubt as to the falling off of the cod-fishery around the shores of the Island. The most convincing proof is the fact that though the population has doubled within fifty years, and the number of persons engaged in fishing has greatly increased, while the various contrivances for taking fish have been multiplied and rendered far more efficient, yet the quantity of codfish taken annually at present does not exceed that of forty or fifty years ago, when the primitive hook-and-line was the chief instrument of the fisherman. This decline holds good, especially in regard to the great bays, around whose shores a large population has gathered. There was a time when a fisherman could fill his boat in a few hours with fine cod within sight of his own door. Now the fish are so scarce that large numbers of the fishermen are compelled to resort to Labrador and other distant fishing grounds, at a great increase of toil and expense, the waters of their own bays being largely depleted. Conception Bay was formerly one of the best fishing localities, and the population there became dense. Very little fish comparatively is now taken in its waters, and there are no signs, from year to year, of any recuperation. Placentia, Trinity, Bonavista, Notre Dame Bays, and other fishing centres have also suffered, more or less, in the same way. The size of the fish, too, has diminished,—a sure sign of a declining fishery. Reckless, destructive methods of fishing, as well as overfishing and the extensive capture of immature fish, have combined in doing the mischief. No restraints were placed by law on the fishermen; and cupidity did not stop to consider the consequences in the future. Advancing depletion now threatens the shore fishery.

Such was the condition of affairs with which the Fisheries Commission, on their appointment, had to grapple. As a first step, they decided on the erection of a cod-hatchery, with the view of testing the practicability of restoring exhausted waters by artificial means. They considered that in those deep sheltered bays, with their arms running far inland, and the water possessing peculiar purity and salinity, they had very favourable conditions for hatching and rearing young cod. Dildo Island in Trinity Bay was selected as a site for the hatchery. The erection was on a large scale, and fitted up with all the recent improvements. It has capacity for hatching from two hundred and fifty to three hundred millions of cod-fry annually. If successful in Trinity Bay, cod-

hatching could be gradually extended around the Island, and its bays and fiords, with the inshore fishing grounds, converted into great codfish preserves. It was also decided that the artificial propagation of lobsters should be carried on simultaneously with that of codfish. In Newfoundland, as in every other country in which lobsters are taken, the fishery shows alarming symptoms of rapid decline which, if not arrested, must ere long end in the extermination of this valuable crustacean. Mr. Nielsen's invaluable invention of floating incubators for hatching lobsters rendered it practicable to carry on this process on a very large scale, and at many different places around the Island.

These hatching operations have been carried on during the summers of 1890 and 1891. One of the principal difficulties encountered has been the procuring of a sufficient number of ripe spawning fish to supply the hatchery with cod ova. The codfish around the eastern and northern shores of the Island spawn from the beginning of May till the end of July. The female codfish does not, like the salmon, accomplish the act of spawning at once. The eggs ripen gradually, and pass from the fish into the water as they mature, the period extending over six weeks. The spawners are kept in tanks in the hatchery, and at intervals are taken out and "stripped"; then returned to the tank. The milt of the male is poured over the eggs which are placed in a proper receptacle with a small quantity of water, and the fecundated ova are then placed in the hatchery jars in which, by an ingenious contrivance, the water pumped into a cistern from a depth of thirty feet, is constantly kept in gentle motion, the eggs floating near the surface. In a temperature of 40° Fahr. the embryo cod hatches, or breaks through the egg, in twenty or twenty-one days. A lower temperature will prolong the period of development and one which is higher will hasten it. When the young cod escapes from the enveloping membrane, the mouth, tongue and digestive organs are not fully developed; but the young fish is provided with a yolk-sack containing nutriment on which it subsists for ten or twelve days. The mouth and digestive organs are now fully formed so that the young fry can seek food for themselves and are liberated in the sea. From fifty to sixty per cent of the eggs treated in the hatchery are hatched. By the construction of a pond in which the fish will be allowed to spawn in the natural way, Mr. Nielsen expects to hatch from seventy to ninety per cent of the ova, so that his output for the season will be greatly increased.

The first season for hatching (1890) proved to be very unfavourable, owing to the presence of unusual quantities of ice around the coast, in consequence of which the cod were late in approaching the shores. Seventeen millions of cod were hatched and "planted" in the waters. During the second season forty millions were hatched successfully. A much larger output is anticipated in 1892. The fishermen reported in 1891 seeing immense numbers of young cod in the waters where formerly none were found. That these were the products of the hatchery can hardly be doubted. Two years more will be required to determine whether the grand object aimed at can be fully attained, as a codfish requires four years to reach maturity.

Lobster hatching is a totally different process. The eggs of the lobster are fecundated within the body of the female, and when extruded are fastened to the fibrils under the tail by a glutinous substance. She carries them with her till they are hatched. At the lobster factories, arrangements are made for collecting these eggs from the captured lobsters, placing them in floating incubators in which they are hatched and afterwards set free in the sea. During 1890, the immense number of 406,005,300 young lobsters were hatched and planted in the waters. In 1891, the number hatched was 551,469,880. It should be noted that but for this artificial process all these life-germs would have perished, as the lobsters are boiled before being packed. The effect of preserving and bringing them to life cannot fail to have a most beneficial effect in sustaining the stock of lobsters and averting the deterioration or destruction of a valuable fishery. The commission are satisfied that by combining it with a close season and a proper regulation of the openings in the lobster traps, so as to permit immature lobsters to escape, the future of the lobster fishery is assured. Canada is likely to adopt Mr. Nielsen's floating incubators, and in Scotland they are also introduced. Lieutenant Gordon, R.N., who is well acquainted with the lobster fishery, says in his report for 1890, in reference to the value of Mr. Nielsen's floating incubators:— 'Suppose the case of a cannery putting up 2,000 cases of lobsters, or 96,000 lbs., these require, say, a million lobsters to put up

and my inquiries show that probably one in five are 'berried' lobsters—say 100,000. Now take one-half of this and say that 50,000 'berried' lobsters, each carrying about 20,000 exuded eggs, were destroyed in putting up the 2,000 cases, we have no less than 1,000,000,000 ova destroyed, and if this rule be applied to the 220,000 cases which constituted the product of the fishery for the year 1889, we have a number of 110,000,000,000 as the wanton destruction of ova which it is possible, by the use of this simple means (Mr. Nielsen's incubators) to save, or at any rate, in some small measure; for even a saving of one per cent of such a total, represents a number the magnitude of which figures fail to bring home to the mind."

The propagation of codfish and lobsters is but a part of the work of the Fisheries Commission in Newfoundland. They diffuse information regarding the cure of codfish, the cure and packing of herrings; and construct and enforce rules and regulations for all the fisheries designed to protect and improve them, while they aim at maintaining a careful guardianship over the salmon rivers. In the herring fishery they have already accomplished an improvement which will be of immense value to the colony.

The remainder of this paper may be usefully occupied with some remarks on the development of the ova of the codfish and lobster, derived from observations at the Dildo hatchery.

The great majority of our marine food fishes deposit their eggs near the surface of the sea. These eggs are extremely buoyant, transparen as crystal, and, while in a living and healthy condition, will not sink. On the loss of their vitality, however, they sink to the bottom. The specific gravity of the cod ova is delicately adjusted to the salinity of the water. If the sea water on the surface becomes mixed with fresh water, as will occur after continuous heavy rains, the ova sink down until they meet water of a suitable salinity and density. When the fresh water has evaporated they will rise and float on the surface, their constant tendency being upwards, so as to come under the genial influence of the solar light and heat. These delicate little eggs have first to mature in the ovary of the mother-fish, and when ripened in this receptacle, the capsules which encompass them burst, and the ova are discharged into the water, looking like small transparent bubbles to the naked eye, and behaving in the sea just as soap-bubbles do in the air, dancing freely about when the water is agitated. The ripened milt of the male fish, containing the spermatozoa which are necessary to the impregnation of the egg, is discharged into the same waters and must come into contact with the ova before they can develop into fishes. It is marvellous to look upon one of these little transparent embryos of the cod as it bursts from the egg, barely visible to the naked eye, and weighing only the fraction of a grain, and to think that from it will be developed the lordly codfish, weighing forty, fifty or even sixty pounds. This growth takes place in three or four years, in which time it becomes perhaps half a million times weightier than at birth. It surpasses even the marvellous growth of the salmon which Frank Buckland considered to be the most rapidly increasing of all animals. He tells us that a salmon three days old is two grains in weight, and when it comes to maturity it may weigh thirty pounds and will then have increased 115,200 times the weight it had at first. But the cod surpasses this, starting from an embryo which is a mere fraction of the young salmon's weight.

The ovaries of the codfish are very largely developed, filling nearly the whole of the abdominal cavity. A very large cod has been known to contain nine millions of eggs. But it must be taken into account that these eggs are small, exceedingly delicate, and exposed to greater dangers during the course of development than the ova of fish which carry a smaller number. The latter are larger—as in the salmon—hardier and better protected. Hence it comes that, as a rule, the fish which carry a large number of ova are in reality less prolific than those which carry a much smaller number of eggs, as a much larger proportion of the latter survive to maturity. An enormous proportion of the cod ova perish from their extreme delicacy and minute size. For the same reason, the artificial hatching of cod ova is difficult, and requires very delicate manipulation.

When in the hatchery, the cod ova are to be fertilized artificially, the female is taken from the tank in which they are kept till ripen, and held over a vessel partially filled with pure sea-water, in such a position that the weight of the ovaries presses upon the canal. The ova then run freely into the water in the vessel, without any pressure on the

stomach of the fish. The male fish, having ripe milt, is then taken from the water and held over the vessel in a similar manner, till the required milt has mingled with the ova. The fish are put back into the well or tank as soon as "stripped," to await further ripening, the period over which the process goes on being five or six weeks. The water containing the ova and milt is then gently stirred and left standing until the spermatozoa have entered the microphyle, a minute opening in the membrane surrounding the eggs. Having entered the ova, the spermatozoa do not disappear into the yolk, but form from their head or nucleus, the male pronucleus which meets and fuses with the female pronucleus, as the germinal vesicle is termed. "Fertilization depends upon the conjugation of these two sexually differentiated nuclei." From this conjugation-nucleus, formed by the fusion of the male and female nuclei, the new being takes its origin. A single spermatozoon is capable of fertilizing an egg.

When thus fertilized the eggs are cleansed, measured, so to ascertain their number, and placed in the hatching apparatus for further development. The quantity of water, ova and milt must be duly proportioned to each other, in order to secure the fecundation of the egg.

After fertilization, the first development of the embryo commences by the process of segmentation. In an unimpregnated egg, the germinal layer which covers the yolk appears like a transparent substance containing numerous minute vesicles. When the process of impregnation first takes place the egg turns a dull colour, but speedily brightens again, and the numerous minute vesicles become larger but less numerous, because they become confluent and unite. One hour after impregnation the protoplasmic layer can be seen travelling in beaded streams towards the lower pole of the egg, where the germinal disk is forming. The first mysterious life-movements have begun. In water having a temperature of 40°, three hours are required before the germinal disk becomes defined, and the protoplast extending from it is seen to embrace the yolk.

About six hours after impregnation, the segmentation of the germinal disk can be seen, by the aid of a microsope, to have commenced; and the egg, which originally consisted of one cell, is divided into two cells, through the shortest or equatorial diameter. Segmentation advances gradually by the two first cells dividing themselves and forming four new ones. Each of these again divides into two, and thus a multitude of small cells come into existence. Twenty-four hours after impregnation, segmentation has advanced so far that the germinal disk is divided into fifteen cells, and the nucleus can be seen through the cells. In two days the process in the cleavage of the disk is still further advanced and about sixty new cells can be counted, forming four layers, one over the other. As the segmentation goes on the cells become by the fourth day more and more numerous, and the disk rises and assumes a convex form on the side pointing towards the yolk. After segmentation is completed, the disk sinks down and assumes a concave form, and is then termed the segmentation cavity, or embryonic disk or sack.

On the seventh day, the first indication of the embryo is defined in a thickened rim of the blastoderm, on the right-hand portion of the embryonic disk. On the eighth day the neural plate becomes visible, appearing like a cord lying across the egg, when viewed from below, and the embryonic sack has become more elongated.

On the ninth day, the head of the embryo is defined and appears like a thickening mass on the lower part of the ovum; and the cerebral, with indications of the optic vesicles, can also be seen forming at the sides of the head.

On the eleventh day, the first segment of the muscular system has appeared on each side of the neural canal, and the dorsal cord (notochord) can be seen below it. On the twelfth day the optic vesicles are seen more defined, while the muscular system and the notochord are more distinct.

When the embryo is fourteen days old the rudiments of the heart, pectoral fold, auditory canal and intestines can be seen. The stellated pigment cells are now also making their appearance.

On the fifteenth day, the heart appears like a spherical cavity surrounded with a wall of connected cells; the fore-brain is further developed, and the optic system more advanced. The primitive lateral fin-folds can now be observed. The embryo has grown considerably and is lying near the membrane of the egg in the shape of a half moon.

On the sixteenth day, the tail of the embryo cod becomes free and is twisted over to one side ; the vent is also defined.

On the eighteenth day the heart is so well developed that it is seen to pulsate regularly, and the eyes are beginning to receive their colour. The pigment cells are also increasing in number, and the tail is now so well developed that it begins to straighten and move.

In water having a temperature of 40° Fahr. the embryo cod will hatch, or break through the egg, in twenty or twenty-one days after impregnation. It escapes by bursting its enveloping membrane with vigorous strokes of the tail. For a day or two previous, the imprisoned embryo has been showing by its constant movements that it was eager to enter on its new and freer life in the great world of waters. The tail is the weapon by which it effects its freedom and is usually pushed out first through the gaping opening. The body, with a yolk-sack hanging to its under side follows. The mouth and digestive organs are not yet formed ; but the yolk-sack, which has been formed from the egg, and is large in proportion to the fish, contains deutoplasm, an albuminous substance, which furnishes its nutriment for the first ten or twelve days, until the mouth and digestive organs are developed and the young fish can seek food for itself.

The baby cod, thus liberated, at once makes attempts to swim ; but its tail, for the first day after birth remains covered, and in consequence its movements are circular, and it spins round in spiral fashion. Soon, however, the tail straightens and it is able to swim right ahead, and is seen gamboling through the water, evidently in a state of enjoyment. Its sack of food, however, greatly interferes with its movements, and it is not till this is absorbed that it can swim swiftly. During this period the cod nurslings are kept in the hatchery, and only when they are able to swim vigorously are they liberated in the outside waters to commence the battle of life.

A high temperature of the water will hasten the development of the embryo, and a low temperature will retard it ; so that the process from impregnation to birth may vary from ten to forty days in duration, according to the condition of the water.

There is no more amazing and interesting sight than the growth of the embryo, day after day, as viewed with the microscope through its crystalline envelope. Every organ is seen shaping itself, as if by some mystic rhythm, till the heart begins to pulsate and propel the blood to all parts of the body and build up the frame from the tiny speck of protoplasm to the bulky, voracious ranger of the sea. We can view it as "it is made in secret and curiously wrought in the lowest parts of the earth," its "substance yet being unperfect." What profound mysteries, too, lie behind all that the microscope can reveal and all that the eye of science can penetrate! The secret of life is as impenetrable a ever. The mysterious power that directs the movements of those molecules which shape the living creature and determine its destiny, who can pretend to define or fathom! "In Thy book were all my members written, which day by day were fashioned when as yet there was none of them." "Fearfully and wonderfully made," is true of every living creature.

In many points the ova of the lobster present a marked contrast to those of the codfish, and differ from them greatly in the mode of development. The cod ova, as we have seen, are impregnated in the water after they are extruded from the fish ; the lobster ova are fecundated within the female before being extruded. The pairing of lobsters takes place after they have fully recovered from the process of shelling. During copulation the spermatozoa of the male are deposited, by its sexual organ, within the oviduct of the female, and there coming into contact with the ova fecundation is accomplished, and not till then are the eggs extruded. They are not, however, thrown into the water like the cod ova. They come from the oviduct covered with a glutinous substance which enables them to adhere to the swimmerets or fibrils underneath the tail. When in the act of spawning the lobster bends its tail forward, in order to catch the ova as they are extruded. The peculiar form of the tail, with its movable swimmerets, is admirably adapted to this purpose. This process of spawning is accomplished in the course of one day—furnishing another point of contrast to the codfish, which occupies several weeks is spawning.

The newly-spawned ova are of a uniform dark green colour, but become more and more transparent as the period of hatching approaches. They are carried by the lobster,

attached to the swimmerets until they hatch, the motion keeping them clean and promoting their development. The period that is occupied from the extrusion of the egg till the hatching takes place is nine months. During all this time the ova are carried under the tail, and protected from foes by the rapid motion of the mother if attacked. The powerful tail of the lobster enables it to shoot backwards through the water with extraordinary rapidity. Mr. Nielsen, when investigating the habits of the lobster, was able, on one occasion, to measure the distance it could go by a single stroke of its tail, and found it to be 25 feet, in less than a second.

The non-transparent character of the lobster ova, for several months after being extruded, renders it difficult or impossible to study the embryo in the living egg, during its first stages of development. When the larvæ break from the egg, all the organs are pretty well developed, with the exception of the claws, and can be distinguished through the transparent skin in which the body is enveloped. The young are not provided with any yolk-bag, but begin swimming about and feeding shortly after breaking from the egg. They are most voracious, and if kept in a confined place will devour each other, and fight till few remain alive. If, however, they are fed well, their cannibalistic, pugnacious tendencies are greatly lessened. In the hatchery they are fed on yolks of eggs, fresh fish liver, finely chopped meat of crabs and fish, and even flour. Their natural food, however, in this larval stage, is vegetable matter and minute animals found in aquatic plants.

When a week old, the young lobster has its first moult or casting of the skin, and a second when two weeks old. After another week it moults again and then the larval state is at an end. From this time its habits resemble more the grown lobster, and the large claws begin to develop and the shell to harden. After another week the lobster is completely developed. Another shelling process takes place, and the new shell becomes more and more like the colour of the natural lobster and increases in firmness. How often they shell after this period, during the first year, is not ascertained ; neither is it known how often they shell during each year till they arrive at maturity ; but as a 10-inch lobster is reckoned to be seven years old, they must in the first year shell more than once to reach that size.

The following figures show the number of ova which Mr. Nielsen counted on "berried" lobsters :—

Size.	No. of Ova.
10 inches	18,000
11 "	22,154
11½ "	22,600
12 "	23,080
12¼ "	23,264
12½ "	23,680
13 "	24,105
13½ "	24,606
14 "	25,000
14½ "	25,260
15 "	25,600

The 8-inch lobsters are not "berried." The European 9-inch lobster carries about 12,000 eggs. As a rule, in Newfoundland waters, lobsters are not mature under 10 inches.

In closing this paper the writer wishes to point out the desirability of establishing a Biological Station for the study of Ichthyology and Marine Biology in all their branches. This is a work for the Dominion of Canada whose fishing interests are so extensive, but, if established at some eligible locality on the shores of the Lower Provinces, such an institution would equally benefit the great fisheries of Newfoundland, and that colony might be expected to share in the expenses of its erection and working. The undertaking, however, should be national, and must be sustained from the funds of the State, as the whole community, directly or indirectly, would share in its benefits, and private liberality in new countries could not be expected to maintain an institution of this kind. The scientific and practical should be so combined as to render it a

Fishery School. It would include a laboratory in which the structure and habits of all kinds of marine life would be studied, especially the life, conditions, food, mode of propagation, movements. etc., of such fishes as possess an economic value. Observations would be conducted, not only on the fauna, but also on the flora of the sea, so as to improve and enlarge our Zoological and Botanical sciences, and impart accurate information to the young who might desire to investigate such subjects. Embryology would form a prominent feature at such a station. Practical instruction in the best modes of conducting fish-culture in all its branches would be given, and thus in such a school would be trained numbers of young men who would be qualified to take charge of hatcheries for the artificial propagation of both fresh and salt water fishes. At present the number of those who possess such qualifications is extremely limited, while the demand for their services is ever increasing. Classes of students from the Universities might profitably spend a few weeks each summer at such a Biological station, engaged in the study of marine life in particular, and in general, of the animal and vegetable resources of the sea. The national importance of such a training school will be evident at a glance.

The interests of pure biology, as a science, would be served by such an institution. The secrets of organic life are to be sought out best in the world of waters; and conflicting hypotheses regarding the origin and development of life are best proved or disproved by researches in sea areas. For modern investigations have shown that in variety of forms of life the sea is not less rich than the land. The fertility of the sea in fishes, crustacea, zoophytes, the lowest forms of sponge life, molluscs, etc., becomes more astonishing as researches are extended. In particular, the sea is the great magazine of invertebrate forms in which life is seen in its simplest shape, and here the student of invertebrate physiology must look for his materials. But all science, in the long run, will be found to have a practical bearing in some shape. And if we want to increase the quantities of our food fishes, our lobsters and oysters, all our operations must rest on a scientific foundation, and all our regulations of our fisheries must have their basis in a scientific study of fish-life. Failing such accurate knowledge, our legislation regarding the fisheries will be largely groping in the dark; and all efforts for their preservation and improvement will come short of the objects aimed at. A thorough knowledge of the mode of life, development, etc., of those fishes which constitute such a large portion of the national wealth of British North America, is essential to their preservation and the extension of these great industries.

Such a Biological station as is referred to need not in the beginning be on an extensive scale or very costly. When once commenced on a solid foundation, it would be sure to expand. In most civilized countries, laboratories for the study of marine fauna and flora are now established, and to these naturalists are resorting more and more as they find there ample materials for their studies and the best appliances. The finest establishment of the kind is that founded at Naples, some fifteen years ago, by a German biologist, Dr. Anthon Dohrn, which may now be regarded as an international institution, since it derives its support from all parts of the world, and is resorted to by students of all nationalities. In the United States laboratories are established at Wood's Hall, near Gloucester, at Beaufort by the Johns Hopkins University, and at Newport by Agassiz. France boasts of four, and Austria has one at Trieste. In 1884, the Marine Biological Association of the United Kingdom was formed, and the result has been the erection of a magnificent laboratory at Plymouth from which great results may be anticipated. Many of the leading scientific men of England are deeply interested in this institution and lend it their support. Scotland, too, since the establishment of its Fishery Board, has been doing excellent work in the scientific investigation of sea fishes. Such men as Dr. Wemyss Fulton, Professors McIntosh and Ewart, Mr. W. Anderson Smith, men of high scientific attainments, are doing admirable work in connection with the Fishery Board of Scotland, in prosecuting original investigations among the sea fauna; while they bring their knowledge to bear practically on the great fishing industries of Scotland.

One other feature of such a Biological station as has been referred to is the aid it would render in the collection of specimens which could be distributed among the various museums of the Dominion, thus enriching their treasures and placing materials for the

study of fish-life within the reach of all. At present the collection of such specimens, in the different museums, is reported to be very meagre and imperfect.

APPENDIX.

The season for hatching at Dildo Hatchery, in 1892, closed 1st August. The total number of young codfish "planted" during the season by Mr. Nielsen was one hundred and sixty-five millions, being four times as many as in 1891, and nine times the output of 1890. This marked success has been partly owing to the construction of a salt water pond—an improvement introduced this year—in which the cod were allowed to spawn in the natural way, and the fertilized eggs were then syphoned into a proper receptacle, cleansed, measured, and placed in the hatching jars. The gain by this new method is 20 to 25 per cent in the number of ova hatched, and a considerable saving of labour. The pond is 60 feet in length, with an average breadth of 24 feet and a depth of 12 feet. It is capable of containing from 1,000 to 1,500 spawning codfish, which would give an average hatching of four hundred millions in the season.

In this pond it was noticed that when in the act of spawning the cod come to the surface, and the male turns on its back, the two touching each other and their vents coming together. This is different from the view hitherto held by naturalists as to the mode of spawning.

When the water was 42° or over the ova were hatched in 14 days. A week after hatching the young had absorbed their yolk-sack and were ready for planting. The pond is supplied with fresh sea-water pumped from a depth of 30 feet by a small "Eclipse" windmill supplied by Fairbanks & Morse, of Chicago.

REPORT

ON THE

OYSTER FISHERIES

OF

CANADA

1892

BY

MR. ERNEST KEMP

Oyster Expert.

OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY

1893

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REPORT

ON

THE OYSTER FISHERY OF CANADA.

Ottawa, 31st December, 1892.

To the Honourable Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to inclose my report on the Oyster Fishery of Canada for the portion of the year 1892 during which I was engaged in the work of examining the oyster beds in the Maritime Provinces.

Having received an intimation from the High Commissioner for Canada, that it was the desire of the Dominion Government that two English Experts in Oyster-culture should proceed to Canada, as early as possible in the spring of this year, for the purpose of examining the several oyster-beds in the Dominion, and inquiring into, and reporting upon, the best modes of preserving and developing this valuable industry, my father Mr. Frederick Kemp and myself left England on the 24th May, 1892, reaching Halifax on the following 4th June.

On our arrival there, we were met by Mr. C. A. Hutchins, Inspector of Lights, Marine and Fisheries Department, who instructed us to proceed to Shediac, which we immediately did.

GENERAL REMARKS ON THE RESULTS OF OYSTER-CULTURE IN FRANCE AND ENGLAND.

Before entering into the body of this report, I deem it advisable, with your permission, to preface it with some general remarks on oyster-culture, and the high state of protection it has attained in France as well as in England. In a country where methods, so successfully pursued, and the advantageous pecuniary results so speedily and surely realized, are comparatively unknown, a few data bearing on these points cannot fail to be of interest to parties who may wish to engage in so profitable a business.

Indeed, during my short stay of a little over six months in New Brunswick and Prince Edward Island, I have found, among the people there, an evident desire to learn everything relating to the culture of oysters, and I have no doubt that with the material assistance which your department is prepared to give, to those willing to embark in this business, the day is not far distant when the whole coast of New Brunswick from Caraquette to Bay Verte and the shores of Prince Edward Island, as well as a great many places in Nova Scotia could be made to yield a handsome revenue to the Provinces, while being of no small importance to parties desiring to engage into this lucrative trade.

My intimate connection with the Whitstable Oyster Company, of which I am a member, and where I have gained most of my practical knowledge and experience, will enable me to bring to your notice a few facts connected with the inception, the development and the present standing of the above-named concern.

The exact date of the formation of this company is not known, oysters having been found on these shores from time immemorial; a record of the members who owned the above company is to be seen in the museum at Whitstable, dated about 1660, consisting of about twenty members. This ground as an oyster fishery they found to be very valuable, but labour being very scarce at the time, these members allowed the labouring men to take an equal proportion of the dividend and finally allowed them to remain as members.

In 1793, an Act of Parliament was obtained incorporating the company of Free Fishers and Dredgers of Whitstable and granting them the Common Seal. Since that year, the company has regularly held each July its water court, presided over by a steward. On that day all its officers are elected for the following year. Only freemen are allowed to attend meetings, or fish on these grounds, a rule rigidly enforced.

The oyster-beds are about one and a half square miles in size, but the company hold land and freehold to a great extent.

From two to three hundred men find employment in the oyster fishery nearly the whole of the year. The total number of members at the present time belonging to the company is 550, the annual turnover being about £70,000, and the total value of the whole concern is estimated at about £200,000 sterling.

Their grounds are always kept well supplied with stock, consisting of marketable and young oysters, which are either bred on their own grounds or purchased from the surrounding oyster grounds adjoining them.

No artificial means have been used at Whitstable, on account of the exposed position of the beds to the sea. At times very large sums of money have been paid for brood for the re-stocking of their grounds. Some of this brood comes from Essex, a distance of about twenty miles. On these shores they have been more successful in saving the spat which falls in their rivers. These grounds are well sheltered and protected from the sea, being nearly all land-locked.

The price of this brood has gradually been on the increase. For instance, oysters were purchased by my father in the year 1860, for the Whitstable Oyster Company, 112 tubs of oysters (24 gallons to the tub) at six shillings per tub, total value £33 12s. Since his return from Canada, after this inspection, he has bought the same quality and quantity for the above company, paying for the same £15 per tub, or a total value of £1,680, thus showing the care and interest taken to preserve so valuable an industry.

Until about the year 1875 no French brood or oysters were laid on English oyster grounds, but owing to the scarcity of spat, falling in English waters, on account of successive cold seasons, which has caused a steady decrease of oysters round the British coast, we have to thank our French neighbours for the success they have been so fortunate in obtaining large quantities of oysters by artificial means, where they are enjoying a milder climate, have crowned their labours with success, and are now enabled to furnish the English markets with whatever supplies that are needed. Larger quantities of oysters are imported from France each year, and before I left England our company alone laid on their grounds 20,000,000 of French oysters to enable them to supply the demands of the trade on the following season, with a good second quality oyster.

In dredging, the whole of the oysters, as they are hauled on board, are carefully examined and selected, all below a certain size are returned to the water on a bed expressly reserved for them, until they have grown sufficiently large enough for market.

The company are most particular with their beds, great care being taken not to disturb or destroy the soil; a vessel is not allowed to anchor on the grounds, they being guarded by three watchboats with crews for night and day work; a rake is not even allowed to be used, under any consideration, under a penalty of £10; and in the year 1887 a vessel named the "Resolute" of about 350 tons burden, through an error in the captain's judgment, ran aground on the beds and remained there for eight hours; although this vessel was owned by members of the above company, yet the matter was compromised by payment of £150 for damages, instead of allowing the case to be settled by law, thus showing the value and the care that is bestowed on these beds. Other companies are just as particular in their care and preservation of their beds.

This work is carried on year after year by those connected with oyster grounds, much the same as a farmer who attends to his farm and crops, and with his labour and exertion is looking in the future for favourable results.

The French Government, finding their grounds becoming depleted through overfishing, realized how necessary it was to interfere to save the entire industry, and laws were passed regulating stringently how and when the few remaining oysters might be dredged. More important still, the agitation of these measures led to the question of replenishment as the important problem.

The reservation of the natural grounds as State property, and the forbidding of general public dredging, is generally regarded as the keystone of French oyster-culture. These grounds once exhausted, and now flourishing, are regarded as the permanent capital of surrounding areas, whose profits in the form of seed oysters are shared by all alike.

The State exercises the additional right of surveillance in the interests of culturists, through the local commissaries of marine, and of regulating and changing the terms of State rentals.

The industry is a profitable one to the culturist. It also returns to the State a large yearly revenue by way of rentals. Competition, moreover, on the side of the culturists, is operating more and more favourably for the people, insuring a product for general consumption.

REPORT ON THE WORK IN NEW BRUNSWICK.

On our arrival at Shediac we were met by Mr. R. A. Chapman, Inspector of Fisheries for New Brunswick, and Mr. E. Hackett, Inspector of Fisheries for Prince Edward Island.

Our instructions were to visit the following places, viz., Shediac, Buctouche, Cocagne and Richibucto.

SHEDIAC.

Having carefully and thoroughly surveyed, dredged and inspected the whole of Shediac Bay, I am convinced that it is a most suitable place for natural oyster-culture. Upon every clear place where any soil can be found have dredged up oysters and oyster brood, as many as 20 at a haul. These beds are in a most deplorable condition through neglect and want of proper care and attention, also the ruthless manner in which the mussel-mud diggers have cut the beds to pieces, and they are now a lot of disjointed patches with an immense accumulation of soft mud around them. It was four days before we succeeded in finding a piece of ground large enough to cultivate oysters upon. Since then we were more successful and have found more suitable and larger portions of ground which have been marked by placing a number of beacons around the same. One of the best pieces of ground is off or abreast of Mr. Hannington's house; it can be very much enlarged by using proper means, there being good ground around and lying in a good depth of water.

There are also other beds which can be connected by time, care and labour. Upon examination of the soil, it was found that the northern portion of the ground, on the plan handed to us, was entirely useless for oyster-culture, but large quantities of ground were found south of the southern boundary of the plan, suitable for the above purpose; the bearings and limits of the ground most suitable have been marked on an Admiralty chart and forwarded to the department.

These grounds when properly cleaned and kept in order will be very valuable both for breeding and maturing the oyster.

To make these beds successful, they must be thoroughly cleansed by dredges as used in England, these instruments always improve and enlarge the same, and will also bring up oysters at any depth of water. I am certain that when the dredge is once introduced in the Dominion it will supersede the rake and open a new feature in the oyster industry.

This ground at present is not in a fit condition to plant oysters upon.

These beds having never been properly worked or kept clean are very dirty, with large quantities of eel grass growing on and around them, also an accumulation of mud, which has been deposited there by the tides; but with time and labour these can all be cleaned and put in working order. Small quantities of oysters and brood, are to be found on these beds, showing that oysters are still in existence in this locality, which are of an excellent quality.

At Buctouche and Cocagne, the grounds were found to be very much disjointed through the mud diggers (with the exception of the Dixon bed). We also proceeded up the river beyond the railway bridge, as far as the oyster-beds extend, and found it in the same condition as below, cut to pieces and disjointed. These patches generally showed a very healthy condition. We cannot find ground with a sufficient depth of water to reserve for the cultivation of oysters in the river or bay. The oysters here are to be found growing on the sides of banks and edges of the channels, being very healthy, growing very fast and a much greater proportion of oyster brood than the full-grown oyster: in one haul we brought up 10 oysters and 54 brood, in another haul 43 brood no oysters, and many hauls in like proportion. Fishing oysters through the ice was very noticeable here, as in some places, bleached shells were found, caused through being exposed to the weather, and the young brood all dead.

At Richibucto we found like the two former places, with the addition of a much larger quantity of oyster brood; on every place which was dredged, were found an abundance of the same in the healthiest condition, no mortality whatever, everything brought up by the dredge proved to be oyster brood; a sight like this could not be seen on any oyster grounds in England. The patches are small, owing to the operations of the mussel-mud diggers, all the surroundings being composed of long eel grass and soft mud. Were it possible to form ground sufficiently hard to receive the spat there could (from Big Cove to Kingston Bridge) be saved a sufficient quantity of oyster brood to supply the whole of England's oyster-beds. On every patch dredged our hauls of oyster brood were as follows: 163, 105, 195, 108. Coming to a larger patch from which we were enabled to obtain a greater quantity we brought up 811; the largest portion consisted of undersized oysters.

No soil was found for the spat to adhere to, consequently great numbers were smothered and destroyed by the mud.

The North-west River was next inspected, where very few oysters were found and the ground appeared to be very old, having been destroyed by the mud diggers, and had the appearance of being long disused.

The best and most suitable piece of ground lay between Indian Island and the main land, a portion of which was comparatively clean, but the greatest portion would require cleaning before planting, there being in this place a substantial bottom; the only drawback which I noticed was the situation, being opposite the Indian settlement and might be robbed by them.

THE WORK IN PRINCE EDWARD ISLAND.

The places visited were Summerside Harbour, or Bedeque Bay, Richmond Bay, Narrows, Bideford, Enmore River, Charlottetown, North or York River, West River and Vernon River.

BEDEQUE BAY.

The greater portion of this bay consists of soft mud and long eel grass: most of the once famous beds have suffered the effects of mud digging.

Off Oyster Point the bottom is very firm, but owing to the grass and weed being so thick, it was impossible to tell what the bottom was really like; at one time large quantities of oysters were shipped from this locality.

Apart from this there appears to be only one available place for the culture of oysters, situated off the North Shore, towards Wilmot Creek; some portion of the

ground was clear, but the greater portion was covered with weed and short grass, the bottom being very firm. The oysters and brood brought up were of a very fine quality and in a healthy condition, growing very fast. This piece, I have no doubt, would be the most suitable piece for restocking after it has been properly cleaned.

RICHMOND BAY.

This ground covers a very extensive area, and find the same nothing short of a gold mine; these grounds appear to be very prolific. Some of these beds are very large, consisting of many acres, the stock upon them comparing well with cultivated grounds; the resources appear to be enormous, for the beds are well stocked with oysters and oyster brood, which we find of a very good quality, and in a healthy condition, growing very rapidly,

Every part inspected where soil is to be found there are oysters and oyster brood. In no single instance have we seen any death, or a marine enemy to the oyster, a most remarkable coincidence over such an area of ground. I submit to you some of the hauls that were made over different parts of the bay: Old Store haul, 37 oysters, 80 brood; 38 oysters, 48 brood; 24 oysters, 38 brood; 20 oysters, 13 brood. Four hauls off south side of Gull Point: first haul, 124 brood, 38 oysters; second haul, 43 oysters; third haul, 20 oysters, 18 brood; fourth haul, 35 oysters, 33 brood. Curtain Island, Malpeque Bay: first haul, 59 oysters, 35 brood; second haul, 40 oysters, 14 brood; third haul, 50 oysters, 21 brood; fourth haul, 38 oysters, 13 brood. From south-west to north-west of Curtain Island reef: first haul, 75 oysters, 18 brood; second haul, 90 oysters, 6 brood. In the middle of the bay we had 64 large oysters and 16 brood in one haul. East end of the Gull Point: first haul, 47 oysters, 155 brood; second haul, 58 oysters, 180 brood. Off Archie Camel's shore, 43 oysters, 23 brood; second haul, 79 oysters, 98 brood; third haul, 64 oysters, 91 brood. Archie Camel's Cape: first haul, 73 oysters, 54 brood; second haul, 89 oysters, 50 brood. Sam's Island, an old bed, 1 oyster, 14 brood. Off Mill's Point west: first haul, 20 oysters, 5 brood; second haul, 6 oysters, 4 brood. McNeil's Point: first haul, 75 oysters, 38 brood; second haul, 39 oysters, 30 brood; third haul, 39 oysters, 36 brood. Lock Shore: first haul, 36 oysters, 28 brood; second haul, 43 oysters, 20 brood. Off River Platt: first haul, 9 oysters, 3 brood; second haul, 21 oysters, 3 brood. Fraser's Cove: first haul, 23 oysters, 7 brood; second haul, 20 oysters, 15 brood; third haul, 16 oysters, 20 brood. The above figures will point out the present state of the grounds, so that from time to time you may be enabled to test the various beds and compare notes. The grounds from Oyster Cove, including Indian River to Rayner's Creek, has been entirely destroyed by mussel-mud digging. Warden Kelly, of Travellers' Rest, informed us that these were originally some of the best beds in the whole bay; the fishermen were able to fish in all weathers here, as they were in such a sheltered position. These beds extended about four miles in length. The whole of this bay is well sheltered from the sea, it being nearly all surrounded by land.

NARROWS AND BIDEFORD.

These places were found to be in the same flourishing condition as Richmond Bay. The oysters here were found to be smaller in size and round in shape, with a deep bottom shell, resembling the English oyster more than anything previously seen, they were well fished, and of delicate flavour.

I will give some of the numbers of oysters taken at different places by the dredge. Middle of Narrows: first haul, 54 oysters, 48 brood; second haul, 60 oysters, 65 brood; third haul, 34 oysters, 54 brood; fourth haul, 35 oysters, 90 brood; fifth haul, 10 oysters, 50 brood. Richard's bed north side of Squirrel Creek: first haul, 53 oysters, 35 brood; second haul, 51 oysters, 38 brood; third haul, 29 oysters, 13 brood; fourth haul, 49 oysters, 10 brood; fifth haul, 55 oysters, 58 brood; sixth haul, 17 oysters, 47 brood. Nigger Point: first haul, 16 oysters, 38 brood; second haul, 30 oysters, 32

brood. Joe Benard's Point, Lennox Island: first haul, 18 oysters, 72 brood; second haul, 36 oysters, 59 brood. Sally Frances bed: first haul, 25 oysters, 38 brood; second haul, 37 oysters, 76 brood. Cooper's bed: first haul, 15 oysters, 222 brood; second haul, 22 oysters, 160 brood. Bideford River: first haul, 14 oysters, 35 brood; second haul, 19 oysters, 21 brood; third haul, 14 oysters, 28 brood. Schooner's Creek was found to be cut up with mud diggers: first haul, 9 oysters, 33 brood; second haul, 9 oysters, 26 brood; third haul, 1 oyster, 1 brood. Barkley's Creek: first haul, 6 oysters, 23 brood; second haul, 8 oysters, 34 brood, Trout River: first haul, 10 oysters, 47 brood: second haul, 2 oysters, 29 brood; third haul, 22 oysters, 68 brood; large mussels were found in Trout River. Lot 12, Point: first haul, 23 oysters, 33 brood; second haul, 13 oysters, 13 brood. Bird Island: first haul, 68 oysters, 47 brood; second haul, 37 oysters, 27 brood; these oysters were very fine.

ENMORE RIVER.

Owing to the unsettled weather, and small boat, we were unable to find any ground suitable to reserve for oyster culture. The warden informed us, that originally there was a bed extending for half a mile in length, but had been destroyed by mud diggers, so that no oysters or ground can now be found. The first haul we had consisted of 5 oysters, 1 brood; second haul, 1 oyster, 8 brood; third haul, 5 oysters, 2 brood; fourth haul, 3 oysters, 3 brood; fifth haul, 6 oysters; sixth haul, 2 oysters, 2 brood; seventh haul, 1 oyster.

CHARLOTTETOWN.

In the North River we found very little soil or oyster ground, the greatest portion consisting of long grass and mud, but were informed there were oysters above the bridge. We were unable to go beyond the same in the steam launch.

West River.—In Long Creek we found an abundance of oyster brood in a healthy condition and growing very fast; the oyster-bed extended nearly half a mile in length. Our hauls were as follows, (but at no time was the dredge full, as our dredging had to be done in a rowing boat): first haul, 4 oysters, 32 brood; second haul, 11 oysters, 81 brood; third haul, 10 oysters, 236 brood; fourth haul, 20 oysters, 222 brood. After finishing dredging in Long Creek, we landed on the point at half tide, our attention being called to the same; we there also found a large quantity of brood, which dried at every ebb tide. Clyde River we found: first haul, 17 oysters, 110 brood; second haul, 17 oysters, 120 brood; third haul, 24 oysters, 128 brood.

Vernon River.—First haul, 15 oysters, 151 brood; second haul, 18 oysters, 163 brood; third haul, 7 oysters, 300 brood. A large quantity of weed and mud exist in all these rivers. Mr. John Finlay informed us that the grounds in Orwell Bay and Orwell Cove would compare well with the grounds already dredged upon the Vernon River.

East River.—Through the courtesy of John MacEachern, Esq., who drove us over to Red Point down to the water's edge at low tide, along the shore from point to point, where we were enabled to see sights worth looking at; the ground being completely covered with oyster brood of a very fine shape and form, very different to the oysters we have seen on the other beds this part of the island. Mr. MacEachern informed us that a continuation of this brood was to be found on every point for ten or fifteen miles along the river. Individuals who have leased oyster grounds, would do well to restock their beds by picking this brood, and planting their beds with the same. As a rule oyster brood picked upon an ebb dry ground, are much hardier than those taken in deep water.

THE WORK IN NOVA SCOTIA.

TRACADIE:—ANTIGONISH COUNTY.

The harbour here is divided into two arms called the East and West Arm. In the East Arm I find a large space of water, well protected from the sea, there being only a narrow outlet at the north-east corner.

This harbour is deep; in the middle it is chiefly composed of soft mud and eel grass, but towards the shore the bottom becomes firmer, and portions of this could be converted into oyster-beds by placing a large quantity of cultch as a foundation for the beds, also for the spat to adhere to, after the oysters have been planted.

The most suitable places here are on the north-west side, there is a cove with firm bottom, and along the north shore it is firm for a short distance from the land. A considerable piece of ground may be found along the east side of the harbour, nearly half a mile in length, running out gradually to a depth of about 10 feet water.

There are also two narrow channels on the south-east part of the harbour, close to Mr. Girrior's house, where the bottom is firm and could be made available. In this harbour I found no oysters, although I have been informed oysters have been taken from here.

The West Arm I found to be well sheltered and protected from the disturbance of the sea, as it is entirely land-locked, and is in every way adapted for oysters to flourish here. The bottom is firm, consisting of shells, stones and mud, the oysters are very healthy and well fished, growing in every part of this arm; oysters are found here of every size; and I have been informed by the fishermen and others in the locality, that oysters are increasing in numbers, large quantities being taken from this part of the harbour each year. The inhabitants are satisfied with what they are catching, and do not wish to be interfered with, as some of the men depend upon the oysters they catch as their harvest of the year. I find many undersized oysters are landed here, which greatly checks the numbers which might be found, were the oyster brood left to grow until fit to be taken to market.

In this spacious harbour the depth of water is found to vary from the sides to the centre from 2 to 10 feet, the bottom is even, there being no mud digging going on in this locality. The farmers here collect the kelp or seaweed from the shores, which they find very beneficial to their land.

Here I noticed some oysters were taken from a firm bottom, while others were found amongst the mud; the former were of a much superior class, both the shell and the oyster being very firm and white in colour, while the latter, the shells were found to be soft, and inferior in fish as regards colour and flavour. This shows that a firm bottom is preferable.

I should suggest that this harbour be equally divided into two portions for the fishing of oysters, to be carried on alternately in each division; fishing on one half of the harbour one year, and the other half the next year. This is a splendid natural oyster-bed, the grounds being an excellent place for the spawn to fall without being disturbed by the motion of the sea.

THE FALL WORK AT SHEDIAC.

On the conclusion of the above inspection my time has been devoted to preparing the oyster-beds at Shediac harbour for the purpose of restocking them in the spring. I have been dredging on one of the largest beds, by means of a small steam-boat, working four dredges, thus removing all the old shells, weed and refuse which covered these beds, being very careful to pick out all live oysters and brood which were brought to the

surface: these have been again relaid on different parts of the harbour, after having been carefully separated from the shells or oysters they have adhered to; this is done so that the shape of the oyster may develop more fully. The cultch and shells which accumulated on these beds have been removed from the top, and placed on the mud on the outside edges, or in some of the holes caused by the mud diggers; and having had an opportunity of seeing the bottom before I closed the work, I am pleased to state that the ground has been cleaned on the edges, making the bed very much larger than I had previously anticipated, and the soil is clean on the portion where I have been engaged, and is now ready for restocking with oyster brood.

I have tried on other parts of the bay which I find dirty, but can also state there has been a small quantity of spat fall during this last summer.

After these grounds have been stocked a large quantity of clean oyster shells will be necessary to be had in readiness to lay on the grounds to endeavour to catch the spat. The time cannot always be strictly depended upon, as it entirely depends upon the state of the weather and the temperature of the water.

No oysters have been planted in Shediac this fall, although I had made arrangements with Mr. MacEachern, of Charlottetown, P.E.I.; when I was ready for them I wrote him, and from some cause or other the letter was delayed in reaching him, when it was found this gentleman was too ill to attend to same. Mr. Lord also wrote me on the subject, stating I had better come over and make other arrangements, if I wished for any oysters to be planted this season; through this delay the season became so far advanced, frost and snow having set in by this time, I deemed it prudent not to lay anything down, as the exposure of the oysters taken from the water to the frosty atmosphere, the change of water, the temperature falling each day, and the risk of oysters lying on the ground the whole of the winter, the loss would undoubtedly be great.

Young oysters taken in the spring will have survived the winter, the change of water and temperature becoming warmer, gives the oyster every chance to live and grow.

GENERAL REMARKS AND RECOMMENDATIONS.

The oyster fishery in Canada can be largely developed, and I would advise that the following restrictions be placed on all oyster grounds, as these will become more valuable every year.

1. Boats engaged in the oyster fishery should be duly licensed, registered and numbered with the respective ports to which they belong, having a number painted in large figures on the boat as well as her name, in the same manner as is done in the United Kingdom, France, Belgium, Holland and other European countries. The above system answers admirably and most effectually in British and continental waters. It seems to be an excellent way of preserving this and other fishing industries.

2. Licenses might be granted to oyster fishermen; each license having a list of rules printed at the foot, such as: No *round* oysters to be landed under two inches in diameter, or *long* oysters under three inches in length, under penalty of a fine for each offence. The rule would apply only to localities where the above size could be defined, as sizes vary according to different waters, but the above rule would apply to all places visited by me and mentioned in this report.

3. No fishing for oysters to be allowed on Sunday, nor at any time during the close season.

4. The number of each fishing boat to correspond with the license held by them.

With the assistance of the above rules, a record of boats and men could be kept, showing the number of people engaged in this industry, and whether it prospered or not. It would also be useful to fishery officers, for the purpose of detecting boats poaching during the close season, or fishing on licensed or reserved grounds.

OYSTER FISHING IN WINTER.

The fishing of oysters through the ice having been stopped by Order-in-Council, I have no doubt such a measure will go a very long way towards protecting and preserving the

beds. Where this practice has been carried on, as has previously been done on most beds, heaps of refuse, consisting of dead shells and mud are found; large numbers of dead young oyster shells are also found bleached by exposure; the loss of oysters in this way must have been enormous. Where the ice does not actually rest on the beds it has the practical effect of protecting the oysters from changes in the temperature. This has proved to be the case in Ostend, Belgium, where the oyster parcs happened to freeze over. Originally they were always breaking the ice, thinking it might hurt the oyster to be frozen over, but they suffered great mortality; upon being advised to let the ice remain they found scarcely any death among them, and have since that time always allowed their parcs to freeze.

MUSSEL-MUD DIGGING.

The machines used in mud digging have proved to be very destructive to oyster grounds, and their injurious effect is noticeable on nearly every bed I have visited.

At Shediac, the grounds have suffered very much from the effects of the mussel-mud digger; these machines having been working on the best portions of oyster-beds for years past. I was informed by Mr. Charles Hannington, C.E., of Old Shediac, that in the year 1885, no less than thirty-seven of these machines were at work on the ice at one time on these beds.

It is estimated by experienced men that one of these machines will destroy an eighth of an acre in one winter. They will dig holes or trenches right through the entire length of an oyster-bed, to a depth of 20 to 25 feet, and about 6 to 9 feet in width. These holes will fill up in course of time with soft mud, and it is very difficult to lay a foundation on such a soil, to restore the beds to their original shape. It can thus be seen where the oyster-beds have gone to.

Oyster-beds can never be cultivated where the mud digger is allowed to work, and considering how these grounds have suffered by being more contracted each year, it would be advisable to prohibit mussel digging altogether.

PREPARATION OF GROUNDS.

Oysters cannot thrive where the ground is composed of moving sand, or where mud is deposited; consequently, since the size and number of these places are becoming very limited, only a very small percentage of the young oysters can find a resting place, and the remainder perish. By putting down suitable cultch immense quantities of the wandering spat (or fry) may settle on it, and thus be saved. As a rule, the natural beds occupy most of the suitable space in their own vicinity. Unoccupied ground may, however, be prepared for the reception of new beds, by spreading sand, gravel and shells over muddy bottoms, or beds may be kept up in locations for permanent, natural beds, by putting down oysters and cultch, just before the time of breeding, thus giving the spat a chance to fix themselves before the currents and enemies have had time to destroy them.

The simplest form of oyster-culture is the preservation of the natural oyster-beds. Upon this, in fact, depends the whole future of the industry, since it is not probable that any system of artificial breeding can be devised on these shores, on account of protecting the seed during the long winter, which will render it possible to keep up a supply, without at least occasional recourse to seed oysters produced under natural conditions. It is the opinion of almost all who have studied the subject, that any natural bed may in time be destroyed by over-fishing, by burying the breeding oysters, by covering up the projections suitable for the reception of spat, and by breaking down, through the action of heavy dredges, the ridges which are specially fitted to receive the future spats.

Professor Huxley quotes: "As regards the future of the oyster industry in Great Britain, and are doubtless just as applicable to other countries, that the only hope for the oyster consumer, lies in the encouragement of oyster-culture, and in the development of some means of breeding oysters under such conditions that the spat shall be safely deposited."

OYSTER FOOD.

In discussing the question of oyster food in its many aspects, the general character should first be examined. The oyster, it is well known, is quite an epicure in its feeding, preying almost entirely upon the minute, lowly organized plants that float or swim in its neighbourhood. With its shell slightly opened, and with the dark coloured sensory margins of its mantle protruding, it draws into its shell a narrowing food-bearing water current. When it once draws in the current, it carefully screens out the minute food particles, and passes out a stream of filtered water. It avoids if possible ingesting sand or mud. Oyster food, it will be found, consists mainly of diatoms, a particular kind of minute, lowly organized plant that have the remarkable power of moving freely about in the water. Unlike any other plant they are incased in a pair of saucer-like glassy shells, fitted one to the other like the lid to a pill box. The glassy cases of the minute plants appear in no way to inconvenience the oyster's digestion. The mucilaginous sheathing that encases prominently many diatoms, is first dissolved, and the digestive juices find their way through the intricate glassy valves, speedily attacking and reducing the jelly-like contents, together with the inclosed golden-brown pigment pellets. The emptied diatoms appear to settle gradually, and are soon brushed by countless cilia from the stomach to the intestine.

TEMPERATURE.

During my inspection the temperature of the water has been closely watched, and it has been found to be very even throughout the whole of the waters. There is no reason why there should not be a spat fall each year if the grounds are in a fit condition to receive the same; and with careful attention, I do not see why these grounds after restocking should not be as prolific as they originally were.

TRANSPLANTING OYSTERS.

The removal of oysters from one ground to another has the general effect of improving both their flavour and size. The spring of the year is the best time for planting. By placing the oysters in shallow water during the spring and summer months, they will grow much faster than if placed in deeper water, as the sun causes the water to become much warmer, the oyster being very sensitive to the action of light and heat, which promotes a rapid growth. Oysters planted in the autumn are not so likely to thrive, as owing to the change of soil and falling temperature, the oyster is not properly climatized before winter sets in, which very often proves disastrous. Oysters grow but very little during the winter months, consequently it is all risk and loss with no gain, although there are exceptions in every case.

CLOSE SEASON.

The close season is at present from 1st June to 15th September; while this is against the reserved notion that no oysters should be eaten during the months without an R, I think the dates are well chosen. In Ireland, the close season extends from the 1st May to 1st September, but the Fishery Commissioners have power to alter it; and have exercised such authority in numerous instances. In England, the close season is from 14th May to 4th August, which often proves to be the hottest month of the year. No doubt, the 1st October would, in some ways, be preferable in Canada; but the season, now that winter fishing is prohibited is already so short, lasting a little over two months and a half, that it would seem very hard to further curtail it. If the weather gets warm in the latter end of September, it is the shipper's business to use his judgment in sending oysters to market. That is one great advantage of a person holding a license for an

rea of oyster grounds ; he can meet the demands of the market without overstocking , by sending the best quality and size, leaving his small ones to develop into full-grown ysters.

During the whole inspection, in no single instance have I seen any death or marine nemy to the oyster, which is very remarkable over such an extensive area of ground.

Taking everything into consideration, if care, attention and protection is given to ne oyster grounds in the Dominion, oysters ought to be found in all waters so adapted.

I have the honour to be, sir,
Your obedient servant,

ERNEST KEMP,
Oyster Expert.

BRITISH COLUMBIA

FISHERY COMMISSION

REPORT

1892

OTTAWA
PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST EXCELLENT MAJESTY
1893

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REPORT OF BRITISH COLUMBIA FISHERY COMMISSION.

To the Honourable Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—I have the honour to submit the report of the Chairman of the British Columbia Fishery Commission, which contains the following matter:—

(1.) Introductory résumé of the growth of the salmon fisheries of the province, with statistics of their development, and values from 1876 to 1891.

(2.) Reference to the appointment of the Dominion Superintendent of Fish Culture in 1890 to examine into the salmon fisheries of the Fraser River.

(3.) Reference to the appointment, by Order in Council of 23rd December, 1891, of three Commissioners to further investigate and report upon necessary fishery regulations relating to the salmon and other fisheries of British Columbia, consisting of the Hon. D. W. Higgins, Mr. Sheriff Armstrong and Samuel Wilmot, Esq., with a brief reference to their work.

(4.) The Chairman's remarks in relation to the proceedings, and the conclusions arrived at by the Commissioners at their final meeting at New Westminster on the 19th March, 1892.

(5.) Copies of the Fishery regulations in force in British Columbia prior to the appointment of the Commission on the 23rd December, 1891.

(6.) Copies of the additional regulations, over and above those just mentioned, which are now in force in British Columbia.

(7.) Copy of the regulations as carried by the Commission and recommended to be adopted by the Department of Marine and Fisheries for the better preservation of the salmon and other fisheries in British Columbia.

(8.) The minutes of the proceedings in detail, together with the evidence taken under oath from fishermen, cannerymen, dealers and others interested in the fisheries of British Columbia.

(9.) Minutes of discussion at the final meeting of the Commissioners, for considering the evidence and forming a code of regulations thereon for submission to the Honourable Minister of Marine and Fisheries.

(10.) Copy of the code of regulations so adopted by the unanimous votes of the Commissioners or otherwise.

(11.) Copy of a minority report by the Hon. Mr. Higgins, in relation to some of the regulations.

Respectfully submitted,

WM. SMITH,
Deputy Minister of Marine and Fisheries.

BRITISH COLUMBIA FISHERY COMMISSION.

REPORT

OF

MR. SAMUEL WILMOT,

CHAIRMAN.

(1.) INTRODUCTORY.

The regulation and supervision of the fisheries of British Columbia, particularly the very important salmon fishing industries on the Fraser River and other inland waters, have for some years past been objects of much solicitude to the department, but owing to a variety of causes the regulations from time to time adopted as best suited for the conservation of these important sources of wealth to the community, have not met with that endorsation and approval on the part of those most interested in their preservation as had naturally been expected. Delegations waited upon the Minister, and petitions were from time to time received from the canning companies representing the necessity of rescinding or amending these regulations and substituting others, many of them in direct opposition to the recommendations and reports of the local officers of the department in the province. Hence the desire of all parties for the appointment of a Commission to investigate and take evidence on all matters appertaining to the fisheries of the Pacific province, in order that the department might formulate regulations for the control of the different fisheries, upon data obtained through an uninterested and unbiassed medium.

Before detailing the work of the Commission which was appointed, a short résumé of the growth of the principal provincial fisheries may not be out of place here.

The fisheries of British Columbia have, ever since the first explorers and traders visited the country, been noted for their wonderful extent and richness ; and the annual migrations of the salmon in such immense numbers, up the rivers from the sea to the spawning grounds, have been a source of never-failing interest to travellers and others who have seen them in countless thousands, during the summer months, pushing up stream, overcoming all obstacles, in obedience to that instinctive law of nature which compels them to seek suitable localities for the reproduction of their species.

From time immemorial the aborigines looked upon the season of the arrival of the salmon as their grand harvest, and immense quantities were annually taken and preserved for use during the interval of winter, and that long period during which, although fish were always present in the streams, yet they were not caught with the same facility as during the great runs of "saw-kay," or red salmon, in the months of July and August.

Notwithstanding the improvident and reckless modes of fishing practised by the Indians, and though the quantities of fish caught by them were in the aggregate large, still, comparatively speaking, they were very small indeed to the numbers which formed the great salmon runs that yearly passed up river to the spawning grounds.

Following the gradual settlement of the country, fishing operations, more or less extensive, were inaugurated, and the white man's ingenuity taking the place of the crude methods of the Indians, advantage was soon taken of this great source of wealth and food which the rivers of the province, and especially the Fraser River, provided at their doors.

At first the market for these fish was much restricted, the settlement being sparse, and the absence of any suitable means of communication with the outside world precluded any attempts at export of a product which in quantity far exceeded the requirements of the local demands.

In the States of the Union to the south of the International Boundary, however, where the same profusion of fish wealth abounded, the preservation and shipment of fresh fish in cans had been successfully accomplished, and the industry of preparing canned salmon and shipping it to foreign markets, had been initiated, and was well under way, with excellent prospects of remunerative success, when in 1876 this business was established on the Fraser River, by the erection of two small canneries, whose pack that year aggregated 7,247 cases (one case consists of 48 one-pound cans).

From this small beginning in 1876, the salmon canning industry has grown to one of the first magnitude, the pack of salmon in the Province of British Columbia in the year 1889 amounting to 419,211 cases, representing a value of $2,414,655. This was the product of thirty canneries, of which sixteen were operating on the Fraser River. In the following year, 1890, owing to a depreciated market, due largely to the competition of Alaskan canneries, the output was not so large, being only 414,500 cases, valued at $2,387,519, and in 1891, with thirty-eight canneries in operation, of which twenty-two were on the Fraser River, the salmon pack only reached the total of 316,054 cases, the value of which was placed at $1,517,060. In explanation of this falling off, however, it may be mentioned that owing to a glut in the European market, consequent on the large packs put up by the canneries in the two preceding years, not as many fish were taken as might otherwise have been the case. The Fisheries Inspector for British Columbia, however, reported that, had the canneries desired to do so, fully 625,000 cases might have been obtained. A drop in the price of canned salmon from 12 to 10 cents per one-pound tin also largely accounts for the decrease in value of the product of 1891, under that of the years previous.

From the two small canneries in 1876, employing only about 100 persons, the industry has expanded to the extent that in 1891 there were over 6,500 persons employed directly by the canneries, and the number of other persons indirectly benefited correspondingly large.

But while the salmon fishery and canning industry is the most important as yet of the fisheries of the Pacific province, they are by no means the only ones of value—the herring, halibut, oulachon, sturgeon and rock cod all being of prime importance, and but awaiting a corresponding development to show excellent returns for the labour and outlay requisite for their capture and treatment.

The halibut fishery has attracted considerable attention during the past two years, and valuable fishing banks, richly stocked with this commercial fish have been discovered, and though not as yet worked with much vigour, considerable quantities have already been shipped in ice to the eastern cities of Canada and the United States, and notwithstanding the many transportation difficulties and drawbacks, the prices realized give promise of a large increase in the business, and a corresponding benefit to the province in the early future. In 1890 the value of halibut captured and used fresh was placed at $31,840 for 636,800 lbs., and in 1891 the catch had increased to 1,130,000 lbs., valued at $56,500.

The total value of the fisheries of the province for 1890 was reported by the Inspector at $3,481,432.29.

(2.) In 1890 Mr. Samuel Wilmot, Supt.-General of Fish Culture for the Dominion, acting under instructions from the department, paid an official visit to the Fraser River during the height of the salmon fishing season and made an inspection of most of the different canning establishments on the Fraser River, which were at that time in full operation.

The run of salmon in 1890 was very heavy and the opportunity afforded the inspecting officer to obtain a full and comprehensive view of the conduct of fishery matters upon the Fraser River was very favourable. Mr. Wilmot's report to the Government was adopted and published in the annual report of the department for 1890. The report, however, produced much criticism from many of the salmon canners, and their agents, who complained bitterly of the representations which were made by Mr. Wilmot regarding the wholesale destruction of fish and the universal custom which prevailed of throwing all offal from the canning establishments in the river contrary to law, as well as the conclusions arrived at generally in his report.

(3.) With a view of determining the accuracy of this report, as well as obtaining data and information on many other points respecting the river and deep sea fisheries of the province of which, until Mr. Wilmot's report was made, the department had previously been uninformed, a Minute of Council, based upon the recommendation of the Honourable the Minister of Marine and Fisheries, was approved on the 23rd of December, 1891, appointing a Commission consisting of Hon. D. W. Higgins, M.P.P., Speaker of the British Columbia Legislative Assembly, Wm. Armstrong, Esq., Sheriff of New Westminster, B.C., and Samuel Wilmot, Esq., Superintendent of Fish Culture for Canada, " to inquire into and report upon the Fisheries and Fishery Regulations in the Province of British Columbia."

Mr. Charles F. Winter, of the headquarter staff of the Fisheries Department, was detailed for duty and accompanied the Commission as secretary.

The Commission was convened and held its first session at the Court House in New Westminster, B.C., on the 19th February, 1892, Mr. Samuel Wilmot being elected chairman, and proceeded at once to take sworn evidence from day to day and hear testimony from the actual fishermen and other interested parties in regard to all matters affecting the fishery interests of the province.

On 2nd March an adjournment was made to Victoria, where sessions were held daily in the rooms of the Civic Board of Trade until the 10th March, when the Commission adjourned to Nanaimo and held meetings in the town hall there ; from thence

the Commission went to Vancouver ; and then again to New Westminster, where the final meeting of the Commissioners was held on the 19th of March to consider and draw up their report and recommendations to the department.

But previous to this a trip by steamer down the Fraser River to the open waters of the Gulf of Georgia was taken by the Commission to obtain personal knowledge regarding the location and surroundings of the several canneries and other fishery establishments on the river.

The work of the Commission throughout was very considerable, as will be seen by the minutes of proceedings which show that the number of witnesses examined before the Commission was 112. Of these 71 and a delegation from the New Westminster Board of Trade, were heard in New Westminster, 20 in Victoria, 7 in Nanaimo, and 14 in Vancouver.

Whilst the great majority of the witnesses were actual fishermen, there were also canners, their agents, and others interested directly in the fishing industries, and many others also of different occupations who volunteered their evidence, and in most cases, owing to the long residence of these parties in the province and their varied fishing experiences in all parts of the Pacific coast, their testimony was found to be most valuable.

An analysis of the occupations and callings of the witnesses will be found in the minutes hereto appended.

Much, if not the greater portion, of the value attaching to the evidence adduced at the various sessions of the Commission was by reason of the length of time the witnesses have been in British Columbia, during which their experience had led them to form their opinions and views more accurately in regard to the subjects under investigation. Their names and periods of residence will also be found in the minutes attached.

The witnesses were all British subjects, 85 of them being natives of the British Isles, Canada and Australia, while the remainder claimed various countries as their birthplace. With the exception of two native Indians and a naturalized Italian all understood and spoke English, and with these exceptions an interpreter was not required.

(4.) The undersigned further submits the following particulars as the result of the deliberations of this Commission, together with the report and final decision which the Commissioners arrived at, in forming the series of fishery regulations which were recommended to be adopted by the Marine and Fisheries Department. These conclusions and the regulations submitted were formed upon the basis of the large amount of evidence which was taken in the leading cities of British Columbia, where the principal fishing operations were carried on, and where the larger proportion of the practical fishermen resided.

The proceedings connected with this investigation were free and open in every particular, as it was deemed expedient by the Commission to allow the utmost freedom of expression of the views of the actual, and practical fishermen, as well as of the cannerymen, and all others who were interested in the fishing industries of British Columbia.

When the Commissioners' sittings were closed to the public, and after all available evidence had been taken under oath, the three Commissioners met by appointment, at the city of New Westminster, on the 19th March last, when a draft of regulations was

submitted for consideration and discussion, with the view to making any alterations or amendments thereto before their final adoption and submission to the Honourable Minister of Marine and Fisheries at Ottawa.

By a reference to the minutes of proceedings will be found each of the regulations, No. 1 to 24, which were fully discussed by all of the Commissioners, and in the main almost unanimously agreed to, excepting a few clauses on which the Honourable Mr. Higgins voted nay, and others which he asked further time to consider.

The twenty-four regulations as agreed to, *pro* and *con*, will be found hereto attached, which the Commissioners adopted by the following expression of opinion:

"The above sections from 1 to 24 were duly considered by this Commission and the record of their unanimous adoption, or otherwise, is agreed to by the Commissioners by their signatures which are hereto attached."

(Sgd.) "SAMUEL WILMOT,
Chairman.
"W. J. ARMSTRONG,
"D. W. HIGGINS,
"*Commissioners.*"

For the more easy and ready comprehension of the lengthy evidence taken under oath, which covers upwards of one thousand pages of type-written matter, the analysis of the evidence will be found in the minutes of proceedings, showing the number of witnesses, their residence, their occupation, their nationality, together with the names of the witnesses and the pages where their evidence is to be found.

There is also a minority report attached, given in by the Honourable Mr. Higgins, bearing date 29th March last, which embodies his views for dissenting from some of the clauses which were carried by the majority votes of the Commission. This minority report will be found appended to the majority report at the end of the minutes of proceedings.

Satisfactory reference is here made with regard to the conduct and efficiency of Mr. Chas. F. Winter, who acted as secretary to the Commission, and also as the sworn stenographer and type-writer, in taking and recording all evidence, the fulness and accuracy of which is highly commendable.

The several meetings of the Commission in the various cities in which they were held in British Columbia created much interest, and were uniformly well attended, and gratefully acknowledged on the part of the fishermen and other inhabitants as a boon granted to them by the Minister of Marine and Fisheries, to look into the actual position of the salmon fisheries on the Fraser River and elsewhere in British Columbia.

It may be said, however, that the number of witnesses examined, represented a portion only of the public who were interested, and largely attended the meetings of the Commission from day to day. The local press also gave prominence to the matters under consideration, and with the exception of one or two of the meetings only, in the city of Victoria, the utmost satisfaction and harmony prevailed.

Respectfully submitted,

SAMUEL WILMOT,
Chairman, British Columbia Fishery Commission.

P.S.—With the view to a better understanding of the position of the fishery regulations as applied to the salmon fisheries in British Columbia, prior to the appointment of the Commission, and as they are at present, the several regulations as they now stand will be found hereto attached. S. W.

REGULATIONS IN FORCE RELATING TO SALMON FISHERIES IN BRITISH COLUMBIA PRIOR TO THE APPOINTMENT OF THE FISHERIES COMMISSION ON THE 23rd DECEMBER, 1891.

SALMON FISHING.

1. Fishing by means of nets or other apparatus without leases or licenses from the Minister of Marine and Fisheries, is prohibited in all waters of the Province of British Columbia.

Provided always, that Indians shall at all times have liberty to fish for the purpose of providing food for themselves, but not for sale, barter or traffic, by any means other than with drift nets or spearing.

2. Meshes of nets used for capturing salmon shall be at least five and three-quarter inches extension measure, and nothing shall be done to practically diminish their size: provided always that the Minister of Marine and Fisheries may order larger meshes to be used at such times and places as may be in his opinion necessary for the protection of the fisheries.

3. (*a.*) Drifting with salmon nets shall be confined to tidal waters, and no salmon net of any kind shall be used for salmon in fresh waters.

(*b.*) Drift nets shall not be used so as to obstruct more than one-third of any river.

(*c.*) Fishing for salmon shall be discontinued from 6 o'clock p.m. on Saturday to 6 o'clock p.m. on the following Sunday, and during such close time no nets or other fishing apparatus shall be set or used so as to impede the free course of fish, and all nets or other fishing apparatus set or used otherwise shall be deemed to be illegally set and shall be liable to be seized and forfeited, and the owner or owners or persons using the same shall be liable to the penalties and costs imposed by the Fisheries Act.

(*d.*) The use of seines for the purpose of catching salmon is prohibited in the waters of British Columbia.

4. (*a.*) Before any salmon net, fishing boat or other fishing apparatus shall be used, the owner or persons interested in such net, fishing boat or fishing apparatus shall cause a memorandum in writing setting forth the name of the owner or person interested, the length of the net, boat or other fishing apparatus and its intended location to be filed with the Inspector of Fisheries, who, if no valid objection exists, may, in accordance with instructions from the Minister of Marine and Fisheries, issue a fishery license for the same, and any net, fishing boat or fishing apparatus used before such license has been obtained, and any net, fishing boat or fishing apparatus used in excess or evasion of the description contained in such license shall be deemed to be illegal and liable to forfeiture, together with the fish caught therein, and the owner or person using the same shall be also subject to fine and costs under the Fisheries Act.

(*b.*) All salmon nets and fishing boats shall have the name of the owner or owners legibly marked on two pieces of wood or metal attached to the same, and such mark shall be preserved on such nets or fishing boats during the fishing season in such manner as to be visible without taking up the net or nets; and any net or fishing boat used without such mark shall be liable to forfeiture.

5. (*a.*) The Minister of Marine and Fisheries shall from time to time determine the number of boats, seines, or nets, or other fishing apparatus to be used in any of the waters of British Columbia.

(*b.*) The total number of licenses for salmon fishing in the Fraser River shall be limited to 500, and of this number 350 shall be allotted among the canneries in operation on the Fraser River in the season of 1890, the allotment thereof to be based, in the cases of the old canneries, upon their average respective packs of the last three seasons, and in those of new canneries upon the estimate of the Inspector of Fisheries of the reasonable working capacity of such new canneries.

For all licenses up to twenty, inclusive, a fee of twenty dollars each shall be charged, and for any number in excess of twenty which, under the proposed allotment any cannery may be entitled to take up, a fee of $50 for each license shall be charged. Should any of the 350 licenses above referred to remain unissued, they shall be allotted on the basis already stated, to the canneries applying therefor, at a fee of $50 for each license, and in cases there should not be a sufficient number to permit of this being alone, they may be issued by the Inspector of Fisheries, in such manner as he deems equitable upon payment of the last-mentioned fee ; the remaining 150 licenses to be issued at $5 per license to the proprietors of freezers on the river and to fishermen, as the Minister of Marine and Fisheries may authorize, no fisherman, however, to receive more than one license.

No one shall fish for, catch or kill trout from the 15th October to 15th March, both days inclusive in each year. Provided always that Indians may, at any time, catch or kill trout for their own use, but not for the purpose of sale or traffic.

FISH OFFAL.

Fish offal, or any other deleterious substances shall not be thrown into or allowed to pass into, or remain in any water, or river or stream—nor shall sawdust or mill rubbish be drifted or thrown into any stream frequented by fish in British Columbia—See sec. 14, Fisheries Acts.

The following regulations for the salmon fisheries of British Columbia are in addition to the above and are now in force in that province :—

REGULATION OF JUNE 1, 1892.

1. That all *bonâ fide* fishermen, being British subjects and actual residents of the province, shall be entitled to obtain one (1) license to fish, upon payment of the sum of $20 for such license.

2. That each freezing establishment, actually engaged in the freezing and exporting of fish, shall be entitled to obtain not exceeding seven (7) licenses, and that the fee for each license shall be $20.

3. That each establishment engaged in the actual business of shipping or exporting fish in ice, or otherwise, but not in the manner of freezing or canning, shall be entitled to obtain not exceeding three (3) licenses, at a fee of $20 each license.

4. That each and every local trader or dealer in fish for home consumption, in cities, towns, or country, actually engaged in such traffic, shall be entitled to obtain not exceeding two (2) licenses, at a fee of $20 each license.

5. That salters and smokers of fish who carry on this specialty in curing fish for domestic or foreign markets, and not engaged in the fishing business in any other way, may be entitled to obtain two licenses upon the payment of a fee of $20 for each license.

6. That every actual resident settler (with his family residing with him) shall be entitled to obtain one (1) license to fish, upon payment of $2 for the same ; and shall be permitted to fish in any of the waters of British Columbia, except in any prescribed limits at the mouths of rivers or streams, or during the close times ; every such settler shall be a British subject, and such license will only permit of fishing for family use, but not for sale or barter.

7. That each canning establishment, actually carrying on the canning industry, shall be entitled to receive twenty boat licenses to fish as its maximum number ; and that the fee payable for each such license shall be $20, to apply everywhere alike throughout the province.

8. All the persons so mentioned in all of the above sections as entitled to receive licenses shall be *bonâ fide* resident British subjects and the actual proprietors of the business for which the licenses are obtained.

9. That all licenses so obtained shall not be transferable under any conditions whatever, without the consent in writing from the Department of Marine and Fisheries.

COPY OF THE REGULATIONS, 1 TO 24, RECOMMENDED BY THE BRITISH COLUMBIA FISHERIES COMMISSION TO BE CONSIDERED AND ADOPTED BY THE DEPARTMENT OF MARINE AND FISHERIES OF CANADA.

From the evidence taken under oath from numerous parties in relation to the subject of the fisheries at the cities of New Westminster, Victoria, Vancouver and Nanaimo, the following conclusions were come to on the subjects contained in the several paragraphs herein, which are numbered from 1 to 24, and are recommended to be adopted by the Fisheries Department of Canada, for the conservation and maintenance of the fishing industries of the Province of British Columbia. The recommendations are as follows :—

1. That each canning establishment, actually carrying on the canning industry, shall be entitled to receive eighteen boat licenses to fish as its maximum number ; and that the fee payable for each such license shall be $20.

2. That each freezing establishment, actually engaged in the freezing and exporting of fish, shall be entitled to obtain not exceeding seven licenses, and that the fee for each license shall be $20.

3. That each establishment engaged in the actual business of shipping or exporting fish in ice, or otherwise, but not in the manner of freezing or canning, shall be entitled to obtain not exceeding three licenses, at a fee of $20 each license.

4. That each and every local trader or dealer in fish for home consumption, in cities, towns, or country, actually engaged in such traffic, shall be entitled to obtain not exceeding two licenses, at a fee of $20 each license.

5. That all *bonâ fide* fishermen, being British subjects and actual residents of the province, shall be entitled to obtain one license to fish, upon payment of the sum of $20 for such license.

6. That every actual resident settler (with his family residing with him) shall be entitled to obtain one license to fish, upon payment of $2 for the same ; and shall be permitted to fish in any of the waters of British Columbia, except in any prescribed limits at the mouths of rivers or streams, or during the close times; every such settler shall be a British subject, and such license will only permit of fishing for family use, but not for sale or barter.

7. That the regular annual close time for salmon fishing in any of the rivers or streams of British Columbia shall be from the 1st October to the 1st March following in every year.

That the weeky close time for fishing for salmon or other fish in the waters of British Columbia shall be from 6 o'clock a.m. on every Saturday till 12 o'clock midnight on the following Sunday.

8. That the limitation for the size of mesh of salmon nets and the period in which such sized nets shall be used, shall be as follows :—

A net with a $7\frac{3}{4}$ inch mesh for capturing spring salmon to be used from 1st March to 15th August. A net with a mesh not less than $5\frac{3}{4}$ inch mesh for sockeye, cohoe or other salmon, may be used only between 1st July and 1st October.

The above meshes are extension measure.

9. That all licenses so obtained shall not be transferable under any conditions whatever, without the consent in writing from the Department of Fisheries.

10. That the tidal boundaries for all or any fishing for commercial purposes connected with canning, freezing, or exporting of salmon, shall be at Pitt River, and at a line across the Fraser River at Whonnack Creek :—above these two points on the Pitt and Fraser Rivers, netting or fishing for commercial purposes as above described, is forbidden.

11. The use of seines for capturing fish of any description is wholly forbidden at the mouths of all rivers or streams within certain limits thereof as may be laid down by the Department of Fisheries.

12. That there shall be no discrimination with regard to the numbers of licenses, nor the fees payable for the same, for canners, or others, throughout the waters of British Columbia.

13. That the throwing of fish offal or dead fish, saw-dust, mill rubbish, or any deleterious substance into the rivers, or other waters frequented by fish, is alike injurious to these waters and to the inhabitants residing along the same ; and therefore the laws relating to the prevention of offal and deleterious substances being thrown into such waters should be enforced in the interests of the community at large.

14. That it would be expedient, for the improvement of the fisheries in British Columbia, that additional fish hatcheries to the one now in existence should be built in well selected localities on the upper branches of the Fraser River, the evidence before this Commission being largely given in this line.

15. That the great destruction of herring now practised to supply a few crude oileries on the coast and elsewhere, should be prevented by departmental enactments, and thus avoid the too great and rapid depletion of an important factor as bait for carrying on the deep sea fisheries of the British Columbian coast in the future.

16. That the halibut fisheries on the coast of British Columbia, now assuming great importance from the successes which have attended the catches lately made and their introduction into the markets of Boston and elsewhere on the Atlantic coast, demand the husbanding care of the Government for the advancement of this new industry which bids fair to give additional wealth to the inhabitants of British Columbia.

17. That the inclination on the part of the fishermen is to increase the killing capacity of the drift net by giving it greater depth than appears necessary for fairly legitimate fishing, and as the depth as shown now varies from 30 to 60 meshes, and in order to place all fishermen upon the same footing in their fishing operations, and to guard against too excessive destruction of the salmon, the drift net for sockeyes should be limited to a depth not exceeding 50 meshes.

18. That doubts having arisen with regard to the actual meaning of subsec. 8 of section 8, chap. 95 of the Revised Statutes of Canada, it is desirable in the interests of river fishing in British Columbia with reference to leaving portions of the river free from fishing, that not more than one-third of the river should be left open.

19. That the system now prevailing along the coast of killing vast numbers of dog-fish expressly for the use of the livers of said fish for oil purposes only, should be discontinued, unless the bodies of these fish are utilized in the same manner.

20. That salters and smokers of fish who carry on their specialty in curing fish for domestic or foreign markets, and not engaged in the fishing business in any other way, may be entitled to obtain two licenses upon the payment of a fee of $20 for each license.

21. That a suggestion is made to the department for the advisability for further protection of the fisheries, that a sufficient number of additional guardians should be appointed, to enforce the fishery laws.

22. That it is expedient, in the interests of the Fraser River fisheries, that the early runs of the quinnat and sockeye salmon should be captured from which to obtain their ova for artificial breeding in the hatcheries.

23. That the introduction of shad, oysters and lobsters into the waters of British Columbia from the Atlantic coast, is most desirable, and that the Department of Fisheries be requested to institute such means as will bring about this most desirable enterprise.

24. That whereas the native oyster is found in some localities along the British Columbia coast, and as they are becoming rapidly decimated by the action of a few fishermen and Indians, regardless of consequences, it is desirable that the Fisheries Department should take speedy action to prevent their extermination by establishing proper close seasons, and encouraging persons who may be desirous of entering into the business of oyster culture.

NOTE.—The consideration and adoption of the above regulations from 1 to 24, together with discussion and votes taken thereon by the Commissioners, will be found in the minutes of proceedings hereto appended.

BRITISH COLUMBIA SALMON FISHERIES COMMISSION

1892

RECORD OF PROCEEDINGS

AND

MINUTES OF EVIDENCE, &c.

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ANALYSIS OF WITNESSES HEARD BY THE COMMISSION.

At New Westminster there were heard	71	witnesses and a delegation from the New Westminster Board of Trade.
At Victoria there were heard	20	witnesses.
At Nanaimo do	7	do
At Vancouver do	14	do
In all	112	witnesses.

The great majority of these witnesses were persons of many years' residence in the province and their experience in connection with the fisheries extends over a considerable period, as appears from the following:—

25	witnesses had been	residing in B.C.	for 30 years and over.
16	do	do	over 20 years but under 30.
19	do	do	over 10 years but under 20.
21	do	do	over 5 years but under 10.
18	do	do	over 2 years but under 5.
1	do	do	under 1 year.
and 12	witnesses did not state their length of residence.		
112			

By occupations the witnesses were divided as follows:—

Canners and agents of canneries	15
Cannery managers and book-keepers	2
Fishermen	50
Farmers	7
Merchants and traders	7
Fish dealers (fresh fish)	7
Freezers	2
General merchant and cooper	1
Hotel-keeper	1
Master mariners	2
Physicians and surgeons	6
Indian Reserve Commissioner and Indian agents	3
Fishery officers	3
Civil engineer	1
Barrister 1, Chemist 1	2
Butcher 1, Accountant 1	2
Promoter of colonization companies	1
	112

Marine and Fisheries.

The witnesses were all British subjects and were natives of the following places :—

England	29
Scotland	18
Ireland	3
Ontario	13
Quebec	1
Nova Scotia	6
New Brunswick	3
Prince Edward Island	2
British Columbia :	
Whites	3
Indians	2
Newfoundland	4
Australia	1
United States	5
Russia	3
France	1
Holland	1
Greece	2
Portugal	2
Norway and Sweden	4
Italy	2
Germany	1
Not given	6
	112

COMMISSION FOR THE INVESTIGATION OF MATTERS IN CONNECTION WITH THE SALMON FISHERIES OF BRITISH COLUMBIA.

NEW WESTMINSTER, B.C., 19th February, 1892.

First Day's Session.

The Commissioners appointed for the investigation of matters connected with the Salmon fisheries of British Columbia, etc., met, by permission of the Honourable the Provincial Secretary, in the Court-house, New Westminster, at 2 o'clock p.m.

Present:

The Honourable D. W. Higgins, of Victoria, B.C.; Sheriff W. J. Armstrong, of New Westminster, B.C.; S. Wilmot, Esq., Superintendent of Fish Culture for the Dominion of Canada, and Mr. C. F. Winter, of Ottawa, secretary.

Upon request by Mr. Wilmot, the secretary read the Orders in Council appointing the Commission as follows:—

CERTIFIED COPY *of a Report of a Committee of the Honourable the Privy Council, approved by His Excellency the Governor-General in Council, on the 25th of August, 1891.*

"On a report dated 10th August, 1891, from the Minister of Marine and Fisheries, stating that he has received a communication signed by all the representatives of the Province of British Columbia in the House of Commons, representing that fishery regulations, which may be well adapted to other provinces, are not always applicable to British Columbia, and urging the necessity of appointing a Commission for the purpose of collecting information on the subject of the existing regulations in British Columbia, and especially with regard to the alleged injurious effects of throwing fish offal into the water.

"The Minister, in connection with this matter, states, that during the course of an official inspection made last season, the Superintendent of Fish Culture ascertained that the practice of throwing offal in the water, although prohibited by the Fisheries Act, was general.

"It is deemed unnecessary here to deal at length with the injurious effects of such a practice, suffice it to say that it is universally condemned in England, as well as in other European countries. British Columbia canners, however, claim that it can do no harm to the salmon industry, as it is, they say, at once consumed by small fish or carried to the sea by the swift current in the Fraser River. But, on this point, the officers of the Fisheries Department are of opinion that such a condition is untenable, owing to the enormous quantity of refuse, amounting to no less than 8,733,000 lbs. each season.

"The Minister observes, that apart from this consideration, fully one-fourth of this considerable mass of fish matter, thus thrown away, consists of good wholesome food, wantonly destroyed and lost for human wants. This loss represents an equivalent of 277,489 salmon, which are thus allowed to go to waste and pollute the water. Most, if not the whole of this refuse could be profitably used for making fish-oil or guano, thus opening new fields to other industries. Settlers along the Fraser River also complain bitterly of the pollution caused by this offal and of the stench which arises therefrom.

"The Minister appends a memo. containing a synopsis of present and past regulations in force in British Columbia, together with such regulations as have been proposed but not adopted.

"The Minister, in view of certain peculiarities of the Pacific fisheries, their great value, and of the request on the part of members of Parliament, to which reference has

been made, recommends that a Commission, consisting of the undermentioned gentlemen, be appointed to inquire into and report upon the fisheries and fishery regulations in the Province of British Columbia, viz. :—Charles T. Dupont, Charles G. Major, and Samuel Wilmot, Esquires.

"The Committee submit the same for Your Excellency's approval.

(Sgd.) "JOHN J. McGEE,
"*Clerk, Privy Council.*"

Messrs. Dupont and Major having signified their inability to act upon the Commission, the following minute of Council was subsequently approved by His Excellency, and which was also read by the secretary, as follows :—

"Certified Copy *of a Report of a Committee of the Honourable the Privy Council, approved by His Excellency the Governor-General in Council, on the 23rd of December, 1891.*

"The Committee, on the recommendation of the Minister of Marine and Fisheries, advise that the Order in Council of the 25th August, 1891, appointing Messrs. Charles T. Dupont, Charles G. Major and Samuel Wilmot, Commissioners to inquire into and report upon the Fisheries and Fishery Regulations of the Province of British Columbia, be cancelled.

"The Committee on the same recommendation advise that Mr. David W. Higgins, of Victoria, and Mr. William J. Armstrong, Sheriff of New Westminster, together with Mr. Samuel Wilmot, be appointed a Commission for the above-named purpose.

(Sgd.) "JOHN J. McGEE,
"*Clerk, Privy Council.*"

The secretary then read a letter of instructions addressed by the Honourable Charles H. Tupper, Minister of Marine and Fisheries, to the Commissioners, and which was as follows :—

"Ottawa, 27th January, 1892.

"Gentlemen,—By virtue of an Order in Council, approved by His Excellency the Governor-General on the 23rd December, 1891, you have been appointed Commissioners to inquire into and report upon the Fisheries and Fishery Regulations of the Province of British Columbia.

"I have directed that Mr. Charles F. Winter, Secretary to the Deputy Minister of Fisheries, should be detailed to act as secretary to your Commission.

"In view of Mr. Wilmot's position as Superintendent of Fish Culture in Canada, and his position in my department, I would be glad, should it meet with your approval, for him to act as chairman during your deliberations.

"It is desired by me that while you should be free to inquire into the subject of regulations generally for the fisheries of British Columbia, in such way as you deem best, all evidence or information offered you shall be, as far as possible, made part of the record of your proceedings. Mr. Winter, as a short-hand writer, will be able to take down such evidence as you may wish to hear. After you have acquired such information as you desire, I would be glad to have such draft regulations as you may agree upon, with such arguments as you have to offer in support of them, and if it is not possible for you to agree, I would be glad to have regulations from each, or any two of you, supported in the same way.

"While I am not at present authorized to pay out of the public funds more than the expenses which you may incur for the purposes of the inquiry, I may say to you that it is my intention to submit for the consideration of His Excellency in Council, when the Estimates for the next Session are taken up, an item covering a proper allowance to you, in the nature of an honorarium.

"I need not impress upon you the necessity for bringing your deliberations to a close as speedily as possible, though at the same time I have no desire that you should unduly hasten the work.

"I have the honour to be, gentlemen,
"Your obedient servant,
(Sgd.) "CHARLES H. TUPPER."

It was then moved by Mr. Higgins, seconded by Mr. Armstrong, that Mr. Wilmot take the Chair.

Mr. Wilmot, on doing so, thanked his colleagues for their confidence, and explained that the Minister's suggestion was made in view not only of his (Mr. Wilmot's) long experience in connection with piscatorial matters, but also in case of the occasional absence from the sessions of the local Commissioners, he considered it would be better to have as presiding officer the Commissioner who would be quite sure to be present at all the sittings of the Commission.

Mr. Higgins and Mr. Armstrong concurred in this view.

Commissioners Higgins and Armstrong questioned the powers of the Commission under the Orders in Council read by the secretary, and considered a legal opinion as to their power to summon witnesses and administer oaths should be secured.

The secretary stated that he was aware the Minister had previously appointed Commissions by Order in Council, under authority of chap. 115 of the Revised Statutes, and by which witnesses were summoned and oaths administered.

It was agreed that the question should be referred to the legal firm of Corbould, McColl, Wilson & Campbell, for a decision as to the powers of the Commission, before proceeding to take evidence.

Upon the question of programme and the more particular matters to be taken up,—

Mr. Wilmot submitted a memo. of matters for investigation and upon which Mr. Tupper had made marginal notes. (Fisheries file No. 8478—'90). The points more particularly to be taken up were :—

(1.) Offal.

(2.) The limitation of number of nets in the Fraser River, their length and size of mesh.

(3.) Whether licenses, establishing the number of them which shall be given, to canners, to regular fishermen, to freezers and to settlers.

(4.) The close seasons, annual and weekly.

(5.) Fishing limits in the Fraser, shall they be reduced from what they are at present?

(6.) Shall licenses be granted only to resident British subjects, or to any person applying for them?

(7.) Whether a discrimination of fees for licenses should be made as between canners or other fishermen on the Fraser River, and those fishing on or at the estuaries of other rivers in British Columbia.

Mr. Armstrong stated that he also had been considering the matter to be inquired into and had drawn up a few questions in the line in which he thought inquiry should be made, and which he read to the Commission as follows :—

(1.) What depth of net should be allowed for fishing in the Fraser River?

(2.) Should fishing for canneries be allowed outside the mouth of the river?

(3.) Should the offal go into the river or be otherwise utilized?

(4.) Should all canneries have the same number of licenses?

(5.) How many licenses should each cannery have?

(6.) Should licenses be of an uniform price for canneries throughout the province?

(7.) Should any but British subjects of twelve months' standing have a license?

(8.) How many licenses should be issued to fishermen outside of canneries?

(9.) Should Indians have licenses to fish for the canneries, and if so, how many?

(10.) Should residents along the river who do not make fishing a business have licenses to fish, or should they be allowed to fish for their own consumption without a license?

(11.) What capacity are the canneries?

(12.) What does it cost during the average run of fish to put up a case of 48 one-pound tins—get details of expenditure.

The Commissioners agreed to conduct the inquiry upon the general lines embodied in both Mr. Armstrong's paper and the memo. of Mr. Wilmot.

On the question of "open" or "close" meetings,—

Mr. Wilmot.—"Well, the next question would be, shall the meetings be open to everybody and everything?"

Mr. Armstrong.—"Yes, sir."

Mr. Higgins.—"Press and all?"

Mr. Armstrong.—"Yes, sir, press and all, if these things need ventilation let them have it. If we close our meetings, then after we are done there would be sure to to be a great cry about it and no matter how fair and honest we conducted the matter, we would be given no credit for it. I think it would be well to get all interested in canneries to give evidence, then take freezers and then fishermen; if we get canners, freezers and fishermen in here together we won't be able to keep them from talking and disputing."

Mr. Wilmot.—"Oh, well, we must keep order—no discussion must take place to interfere with what is going on before the Commission. The only thing in regard to the press is that if matters are under discussion here and it appears next morning perhaps different to what it really is, it would throw some discredit upon the investigation."

Mr. Armstrong.—"Oh, but we are not discussing these matters with anybody else. We are getting answers to certain questions and then we will discuss the case and not before—at any rate that is my view."

Mr. Wilmot.—"Very well; but these interests of canners and fishermen are very conflicting. Now if some canners are present and some fishermen, would it not prevent the latter from giving that free and open evidence which otherwise they would give?"

Mr. Armstrong.—"Well, if we find that anything like that occurs we can ask the gentlemen to withdraw, but I cannot consistently say I would have it with closed doors. What do you think, Mr. Higgins?"

Mr. Higgins.—"Well, I think it should not be altogether closed, except something like what Mr. Wilmot suggests should occur. I would prefer an open meeting—if we find such has any deterrent effect on any witnesses we can easily remedy it."

The Commission thereupon decided to sit with open doors.

After discussion and on formal motion of Mr. Higgins, it was decided that the hours of sitting of the Commission should be daily from 10 a.m. to 12 noon and from 1 p.m. to 6 p.m., and that the Commission sit this evening from 8 p.m. to 10.30 p.m., to take evidence—future evening sittings being determined daily.

The secretary being despatched for one of the members of the legal firm to whom it had been decided to refer the question of the powers of the Commission, returned with Mr. McColl (Corbould, McColl, Wilson & Campbell). Mr. McColl, after perusing the papers, stated that it was quite clear to him that the present Commission had full power, under authority of Chapter 115 to summon witnesses and administer oaths, and all persons so summoned were bound to appear and answer all questions submitted to them, and all parties so summoned and not appearing could be placed under arrest and tried for the offence. Mr. McColl also approved of a form of oath submitted by Mr. Wilmot and to be taken by all witnesses examined, and which was as follows:—

"I..... solemnly swear (or affirm) that I will truly answer all such questions as may be put to me and also give such information as may be within my personal knowledge to this Commission relating to the salmon or other fisheries of British Columbia now under consideration:

"So help me God."

Upon request of the chairman, Mr. Winter, the secretary of the Commission took the following oath:—

"In the matter of a certain Commission directed by an Order in Council dated 23rd December, 1891, directed to David W. Higgins, W. J. Armstrong, and Samuel

Wilmot, to inquire into and report upon the fisheries and fishery regulations in the Province of British Columbia, and in the matter of Chapter 115 of the Revised Statutes of Canada, 1886,

"I, Charles F. Winter, the stenographer appointed by the Minister of Marine to act as secretary in the matter of the above Commission, do make oath and say, that I will truly take down the evidence that may be given in above Commission and faithfully perform all the duties that may be required of me by said Commissioners to the best of my ability :

"So help me God."

Upon the question of issuing summons to witnesses, it was decided to accept all voluntary evidence first and not issue any summons unless in case of actual necessity.

The Chair having declared the Commission ready for the taking of evidence :—

JAMES WISE, of New Westminster, appeared and after being duly sworn :

Mr. WILMOT.—Well, gentlemen, we will proceed. Mr. Wise, have you any suggestions to offer or statement to make ?

WITNESS.—My principal object in coming here is this : This fishing business is a very mixed business—it is very dissatisfactory to a great many, and in fact two years ago when a farmer could not fish himself or let his sons do so, it was very near making a great deal of trouble—when the free people on the banks of the Fraser could not catch a fish at their own doors, why we might as well be in Russia or Ireland, or some other country of that description. (Laughter.) Then a telegram came to late Inspector Mowat to give licenses for $2. I have not much other information to give you, but I would prefer answering questions if you will ask them upon any particular point you may require.

Mr. HIGGINS.—Are you in the fishing business ?

WITNESS.—No, not now. I sold out to Mr. Ewen four years ago. I had a plant that cost me $4,000 and applied for licenses, but I could not get one. I was one of the first fishermen on the river, as both you gentlemen (to Messrs. Armstrong and Higgins) know, and worked the industry up from its infancy. I am not in the fishing business at present, but would like to go into it next season, but if I put money into plant and then cannot get a license, well, I don't want to have anything to do with it.

Mr. HIGGINS.—Have you ever been in the canning business ?

WITNESS.—I was in the cannery business ten years ago.

Mr. HIGGINS.—What is your opinion as to mesh of nets. Is the present mesh satisfactory ?

WITNESS.—Oh, yes, but I think nets are a secondary consideration ; you want nets here that will catch the fish and you must arrange it according to their size. The reason I make this remark as to size is that I have found spawn in a four-pound salmon and it was just as well fitted for spawning as that in larger salmon.

Mr. HIGGINS.—What do you think of catching fish in the mouth of the river ?

WITNESS.—It is very detrimental and stops fish from coming into the river. It stops them in this way, Mr. Higgins, it stops them when they are active and lively and in the prime of life, and they are held back until they are not in such good condition.

Mr. HIGGINS.—But are they not caught at the mouth of the river ?

WITNESS.—Yes, they are caught, but their course to the river is often deflected away and they go to other places and we lose the fish to that extent. I have seen Indians who have told me they have seen our fish going up to Comox and other rivers where they were not until some seven years ago. They are a very timid fish, but of course in the last extremity will go up notwithstanding all barricades, &c. The breeding time is exhausting to any animal or fish and all these bars which the fish try to pass must make them more weakened. Let the fish get into the river and they will not go back ; they will go on up and spawn. Then protect your spawning grounds properly—this, I think, is the great question.

Mr. HIGGINS.—What do you think about licenses ? Is the present system satisfactory ?

WITNESS.—Well, it may be partly satisfactory to a few, but it is only so to a small minority. There is nothing in any other part of Canada or the States where a monopoly

is given to the few like here. What we want here is a hardy class of industrious working people to come and settle here with their families. Many have come with their families but they could not get a license and then they are under the thumb of men who only give small pay, for they get Chinamen and Indians next to nothing. This system is driving away the best of our people. The only way you can keep them is to give them licenses.

Mr. Higgins.—What change would you suggest?

Witness.—I think you should give a license to every British subject who applies for one. A man who puts up 100 or 200 brls. of salmon will help settle our country. If this plan was adopted this country would be settled thickly and it would drive out the Chinamen.

Mr. Higgins.—You were one time, I think, largely in the pickling line?

Witness.—Yes, I have pickled and salted salmon and sent them to all parts of the world. I shipped salmon on the old "Dominion," probably you remember her. That was when I first sent to the Australian markets. I then went into partnership with Ewen & Wood and we bought out Mr. Legg and then sold out to Ewen.

Mr. Higgins.—Where did you catch your fish?

Witness.—Well, I fished in the mouth of the river and away up above Ladner's.

Mr. Higgins.—Where did you sell?

Witness.—Oh, I sold over here, not far away.

Mr. Higgins.—Where did you clean your fish?

Witness.—On the bank of the river.

Mr. Higgins.—Always on the bank of the river? Was it where the offal could go into the river?

Witness.—Yes, there was no other place to put it. There seems to be no idea but putting it in the river; still, it should be put elsewhere—it would be good to put on the land, would it not.

Mr. Higgins.—They say not; that has been tried and found a failure years ago.

Witness.—Yes; it was tried, but the smell was most objectionable and it was a failure Now, I think, if the offal was put in scows and carried out to deep water it would be at once carried away and give no trouble.

Mr. Higgins.—What effect do you think it has on salmon? What becomes of it?

Witness.—Oh, I don't think it hurts the salmon. It goes in the river, and there are thousands and thousands of little fish that eat up a great deal of it.

Mr. Higgins.—What kind of fish are they?

Witness.—Mainly suckers and such like. As far as its doing any injury to the fish I don't think that it does any harm, but other matters, such as sawdust, I think, do harm.

Mr. Higgins.—Did you ever dredge near a salmon cannery and find any heads or putrid matter in the water?

Witness.—Oh, yes; I have dipped up salmon heads, guts, &c., but if stirred up it all goes in twenty-four hours. We have a five knot current here, and two tides in twenty-four hours, and a pure stream of cold water coming from the mountains.

Mr. Higgins.—Did you ever go up to the head-waters of the Fraser River at a time when fish were dying, and see many?

Witness.—Yes; I have seen them in thousands, dead and dying, and from the way in which the heads and tails of the dying ones were worn and bruised it would be impossible for these fish to get up or back alive.

Mr. Higgins.—Then what becomes of them; do they go to increase the already large amount of offal in the river below?

Witness.—Yes; but they are mostly swept away. I have seen them in a few places down here—in some very thick—but the current takes them away. I have seen spawning salmon in the Thompson River and other places, and have seen them rooting up places to spawn, and there is another point about it, I do not think it well for this country to have a law protecting the trout. For commercial purposes they are no good, and they really destroy more salmon spawn than anything else. They root up the spawning places and eat the spawn and also the little fish, and are very destructive.

Mr. ARMSTRONG.—For what purpose, Mr. Wise, would you require a license to fish—for canning, salting, freezing, or sending fresh fish away?

WITNESS.—Oh, I think if a man wants a license he will be sure to sell his fish to a cannery. Now, when I was with Ewen we ran to our full capacity, and then had tubs ready and never threw away fish.

Mr. ARMSTRONG.—Well, now, you say every person should have a license; would that not tend to decrease the fish?

WITNESS.—Oh, no; I think they are just as plentiful as ever they were, just as many as long ago. Then you have a check on the fishing, namely, the close time.

Mr. ARMSTRONG.—But you would like to pack up on Sunday what you catch on Saturday?

WITNESS.—Oh, well, it is necessary to work on Sundays in this country.

Mr. ARMSTRONG.—The main point I want to get at is this: You say that the fish that go up never return, and that as long as sufficient numbers get up to spawn in sufficient quantities, it is enough to keep up the supply in the river?

WITNESS.—I don't think our large spring salmon ever return. They go up 400 or 500 miles, and are the best kind to be allowed to breed.

Mr. ARMSTRONG.—It is your opinion, then, that if 500 boats were fishing there would be just as many fish as if but fifty boats were fishing?

WITNESS.—Oh, well, I would hardly say that; of course the more they are fishing the more fish must be caught, but I do not think any harm could be done to the salmon in the Fraser River. They are just as plentiful now as when I came here in 1862.

Mr. ARMSTRONG.—They are just as plentiful now as when only forty or fifty boats were fishing?

WITNESS.—Yes; they are just as plentiful, but the spawning beds should be watched and protected.

Mr. WILMOT.—You state that you applied for licenses, and could get none; what was the cause? Was it because all the licenses were taken up?

WITNESS.—I applied to Mr. Mowat for ten licenses—well, says he, you can't get them, but put in your application. I waited, but I got no licenses.

Mr. WILMOT.—Have you ever assigned any cause why you did not get them? Was it from a personal point, or were all the licenses given out?

WITNESS.—Well, I never followed it up, anyway I didn't get them.

Mr. WILMOT.—Are you a farmer, you say the farmers should not get licenses?

WITNESS.—But you don't understand this country. There are many people settled along the river, but who always depend upon the river—they don't farm.

Mr. WILMOT.—But then do you think that a settler living as you state should pay as much for his license as another person engaged in commercial traffic?

WITNESS.—I am hardly prepared to answer that. I think in this way: I think the license fee should be as low as possible, nothing more than enough to defray expenses.

Mr. WILMOT.—Well, do you think $2 too high?

WITNESS.—Oh, no, $2 is nothing at all.

Mr. WILMOT.—Very well; now as to the mouth of the river: is it not the most destructive place for killing fish?

WITNESS.—Yes, it is the worst place.

Mr. ARMSTRONG.—You might define the mouth of the river as it really is for your fishing purposes?

WITNESS.—Well, the limit should be as near the mouth as possible.

Mr. WILMOT.—Yes; but where is the mouth of the river, is it four miles from the lighthouse?

WITNESS.—There are two points of land at the mouth—it should be from one to the other.

Mr. WILMOT.—Then you are under the impression that fishing at the mouth has a tendency to drive fish away.

WITNESS.—Yes, it has a tendency. Indians have told me that they have seen fish in other places forced away from the mouth of our river.

Mr. WILMOT.—Then you think excessive fishing at the mouth drives fish to other points?

WITNESS.—Yes, it drives them away.

Mr. WILMOT.—And this injures the fisheries?

WITNESS.—Yes, certainly. Those fish would otherwise come into the river.

By Mr. Wilmot:

Q. Now about the net—what depth of net do you fish?—A. Well, I think you should leave the net to the fishermen. There are snags in the river—you cannot fish very deep nets.

Q. Yes, but what I want to get at is—there is no limitation at present to the depth of net. Now there are many nets across the river of a certain depth; does this not act as a wall? Should not the depth be regulated as well as the length? Do you not think the depth should be fixed?—A. I am not prepared to say—the net should be left to the fishermen.

Q. Then would you give fishermen free liberty to fish with what must practically be a barricade to fish?—A. Well, but let me tell you the Fraser River is full of snags. You cannot fish a very deep net, and I have found that most of the fish will strike in from the middle up. Not one in ten will be caught from the middle down.

Q. Well, but some are caught—if we regulate a certain depth some would escape. At present you sweep everything before you, do you not?—A. Well, very few fish are caught from the middle of the net down. I don't care much about the net. I think the net is a small matter—we can catch all the fish we want with fifty mesh nets.

Q. Did I understand you to say that you think the canners have too large a monopoly of the river?—A. Oh, no, I didn't say that. Oh, no, the canners have got all the licenses, but I do say that every *bonâ fide* British subject should have a license if he wants to fish.

Q. Then you think if there were more licenses issued there would be more settlers come along the river?—A. Yes; that would be the result. I say, give licenses to all who want them—to everybody. You see we have Japs, Chinamen and all sorts of riff-raff, and what we want is that our own good countrymen living here should get licenses if they want them.

Q. Do you think it advisable to issue licenses to, say, young men who may fit out a boat and then get Chinamen to fish it for them?—A. Yes; everyone should have a license—you can't prevent a man from hiring whom he likes.

Q. And you are under the impression that the offal is not injurious to fish? A. No; it is not injurious to salmon—of course it is injurious to other things.

Q. Yes?—injurious to the farmer and settler along the river?—A. Well, I would not say to whom it is injurious. It is probably more or less injurious to people along the river; but it is not injurious, I believe, to the salmon.

Q. You think that there are great numbers of little fish that eat up the offal? What is the size of these fish?—A. Oh, from half an inch to six and eight inches long.

Q. Do you think it possible for these little fish to eat the heads of salmon thrown in the river?—A. Oh, well, you get several hundred hungry little fellows eating at the head of a salmon, and I tell you it soon goes.

Q. Do you think this offal remains at the bottom of the river?—A. Well, no; I don't think it remains there; it floats off—the current takes it away.

Q. Now, how about the Sunday close time?—A. I do not think there should be any change.

Q. But at present six hours are worked on Sunday; do you think this should be continued?—A. I think that is all right—I am not so conscientious as all that.

Q. Then there is a portion of Sunday when you should fish and a portion when you should not fish, eh?—A. Well, I think there should be one day of rest; perhaps it would be as well to have no fishing on Sunday.

Q. Is there anything further you would like to say?—A. No; only to repeat that our people should be able to get licenses if they want them—that is the great trouble.

J. BATCHELOR, of New Westminster, presented himself before the Commission, and was duly sworn.

WITNESS.—I was connected with the British Cannery last year, and I wish to make a statement before you. We are out of the canning business now, but I come before you because I think it my duty to come and say what I think about these licenses. Now last year there were several men came from Newfoundland and we put them on the river with other fishermen. They were good fishermen—they fished for us and we were perfectly satisfied with them. They refused to go out to work on Sunday night. The whole reason of the desire for Sunday night fishing is to get fish to keep the cannery busy on Monday morning. These men refused to go out on Sunday night until after midnight. They are good men in every respect and for the last two or three years have been applying for licenses but could never get them. Now there are others that we have who go off to Seattle and other places and work in the States and yet they can get licenses. This is very hard. These Newfoundlanders are a very desirable people to get out here ; they are fine, healthy, strong fellows ; they build houses and are in every way excellent citizens, and yet they are debarred from getting licenses.

By Mr. Higgins :

Q. Why did they not get licenses, Mr. Batchelor ?—A. Well, I don't know—we applied for them and tried to help them, but we could get nothing.

Q. Where did they have to apply ?—A. At the Fisheries office here. I may say that these men are at the present time working on the streets, &c.

By Mr. Wilmot :

Q. Then you think it more desirable to hold out inducements to get solid, substantial men to come here to fish ?—A. Yes ; being *bonâ fide* British subjects, all should get licenses. Now, these men can make their own boats and nets and are in every way entitled to licenses.

Q. And do you think that fishermen keeping the Sabbath should be given a preference ?—A. Well, I would not like to say anything as to that—I merely came here to give evidence on behalf of these men whom we had found so thoroughly trustworthy, and whom I consider very harshly treated. Fishing and building boats and nets is their only occupation, and it is very hard indeed to keep them out of licenses.

Q. Then you think that actual fishermen and *bonâ fide* fishermen should get licenses in preference to all others ?—A. Yes.

Q. You are quite of the opinion that a great many people of that class have not been able to get licenses. Did you ever hear them express any opinion as to why they did not get licenses ?—A. Oh, they were not personally objected to. The order came to allow the old fishermen the licenses and that shut out the others. I am quite sure that some of those old ones were not entitled to these licenses, but still they got them, and the good men were denied licenses. Now, these men talk of going into seal fishing and other occupations, and it is a shame that such good men should be obliged to go away.

Q. Then you think people who now get licenses are transients—they go away after ?—A. Well, I don't know exactly enough to say that.

By Mr. Armstrong :

Q. Who represents the cannery you sold ?—A. The Anglo-American Packing Company.

Q. But who is in charge of it now.—A. Mr. English is manager.

By Mr. Wilmot :

Q. Are you of the impression, Mr. Batchelor, that it is injurious to have too much fishing at the mouth of the river, and that it prevents the entrance of fish into the river ?—A. Well, Mr. Wilmot, if I was now in the business I would give information, but as I am now out of it altogether, I would rather not give you information.

Q. Well, but I think it would not be out of place for you now, as a disinterested party, to give us your opinion ?—A. Well, I prefer not to say anything now—we are

out of the business. My only object in coming here was for the sake of those people whom we employed and who I consider were very harshly treated. I would not care to speak on any other points, as I now have no connection with the business.

Q. Well, but, Mr. Batchelor, may I put it in this way: Your object is to see good fishermen come here—now would it not be equally as well if there is too excessive fishing in any portion of the river, that it might interfere with these men, and why not give us the benfit of your opinion on this matter?—A. Well, I would certainly prefer not speaking, however, if I am called upon later I shall be glad to say what I think. About the men of whom I have spoken, I felt it my duty to come and represent the great hardship under which they have laboured. They cannot do much other work, and have been born and bred fishermen.

Q. Do the canners employ these men?—A. I am sure they would if they knew them, but they are not yet well known. Some have been already engaged—they are wholly fishermen and are excellent men.

By Mr. Armstrong:

Q. Could you see these people and ask them to come here? Their evidence would be valuable.—A. Yes, I can; I will see them. I'll make a point to do so.

By Mr. Wilmot:

Q. Did these people apply to Mr. McNab for licenses last year?—A. Yes, they applied, but they were told they could not get them.

By Mr. Higgins:

Q. Where was your cannery situated?—A. Just below Mr. English's.

Q. But where did you fish? At the mouth of the river?—A. Well, all the way down, often out in the Gulf.

By Mr. Wilmot:

Q. Where did you catch the greatest number of fish when you were fishing?—A. Through Canoe Pass down to the mouth of the river.

Q. The best fishing then is just at the mouth of the river, is it not?—A. Well, it just depends what kind of run there is. In a good run you can catch just as many opposite the town here.

Q. What do you think of the regulation of nets? Would you advocate restricting them to a certain depth?—A. Well, it altogether depends on the location in the river. The most established mode of fishing is, I think, with forty meshes extension.

Q. What kind had they before?—A. It entirely depends on the channel of the river, some more, some less. We used thirty, thirty-five and forty.

Q. Would a forty-mesh net be twenty feet deep when in the water?—A. A mesh is about five inches, and the present mesh used is very suitable for the fishing. I desire to keep nothing back, but being out of the business now I don't think I should go into any matters that do not affect me.

By Mr. Armstrong:

Q. How far is Ladner's from the mouth of the river?—A. Well, I think the first buoy would be the mouth of the river. I don't know the distance from Ladner's. I don't know how far it is. I suppose about a mile or two. I really don't know.

By Mr. Wilmot:

Q. What do you think of everyone having a license?—A. Well, I don't wish to go into this question.

By Mr. Higgins:

Q. What do you do with your offal?—A. We put it in the river.

Q. Do you think it hurtful to fish?—A. Oh, no, not at all; it never hurt the fish. It is taken right away at once by the tide. We never see the offal washed back. We dumped tons and tons of it and it all went away.

Q. But does it not leave deposits?—A. Sometimes, but it all goes. You must remember we have to drink that water; it is brackish, but we catch rainwater as well, and I can tell you we don't want to hurt the water. Then look at the numbers of dead fish up the river, at Chilliwack, &c. There are great numbers of them, and they don't seem to hurt the river. The crows and other birds seek after them and eat many of them.

Q. Well, but do these dead fish ever come down the river?—A. Oh, I suppose some do, but I never took notice of them; they all seemed to disappear.

Q. You think fishing should be confined to British subjects only?—A. Well, I don't see how any one else has any right to take fish.

By Mr. Wilmot:

Q. What class of people did you generally employ in your factory?—A. Chinamen, Klootchmen.

Q. Whom?—A. Indian women and Chinamen, and then the fishermen were all kinds; Greeks, Italians, &c., apart from the whites.

Q. What proportion of these Greeks, &c., would there be—that is, in proportion to the whites?—A. Well, it is impossible for me to tell. We have not time to bother to see who these people are.

Q. What number of hands did you employ in your cannery?—A. You will find it all given in the census returns. I could not say. We might have had 100 Chinamen, and forty or fifty Klootchmen, and about eighteen or twenty boys.

By Mr. Wilmot:

Q. Do you think twenty boats sufficient for an ordinary cannery?—A. Some years it is, some years it is not.

Q. Then you consider it advisable to decrease the number of boats according to the season?—A. Well, I would not like to give any opinion on that. I do not want to interfere with anything connected with the fishing business, because we are out of it. I only wanted to speak for the better class of men. It is not right that these men should walk about with their hands in their pockets and all sorts of riff-raff get licenses.

By Mr. Armstrong:

Q. Could you get these people here? We would like to see those who are representative men?—A. I will be glad to make it a point to see them and tell them to come in.

By Mr. Wilmot:

Q. Well, what do you think of the Sunday fishing? Do you advocate fishing on Sunday?—A. Well, I wouldn't say; I simply say our men would not fish for us on Sunday.

T W. HERRING, of New Westminster, appeared before the Commission and presented the following written statement, which was ordered to be entered in the record of proceedings:—

"To the Honourable Board of Fishery Commissioners.

"Gentlemen,—Knowing that you are now sitting in this city on the Fisheries Commission, may I be allowed, as an old resident and fisherman of British Columbia, to offer a few suggestions which would be an undoubted benefit for the fisheries in particular and British Columbia in general.

"1. I should suggest that no discrimination should be shown in the cost of licenses on the different rivers of British Columbia, but they should be all of an equal cost and good on any river of British Columbia, cost to be determined by the Fishery Commissioners, whether $5 or $20, and that no license should be granted to any one not born a British subject. This would keep out Japanese, Chinamen, and other foreigners who are no good to the country.

"2. I would suggest that nets for spring fishing for the first two months in the year should be of an uniform depth and of not more than fifty meshes.

"3. That licenses should be non-transferable, as several have been issued out of the limits to parties who are not fishermen, to the detriment of the fishermen.

"4. That the river should be locked as at present, but that licenses should be more equally divided than at present, consistent with the limitation. Canneries should be limited to fifteen licenses apiece, which with the present canneries on the Fraser River, twenty-two (22) and two more making application (24) would allow 120 or more licenses to be distributed among the fishermen without causing any harm to the cannery people.

"5. I would recommend that fresh fish dealers, salteries and fish-freezing establishments be limited to five licenses apiece, provided they can show to the satisfaction of the fisheries inspector that they have at least the necessary equipments for salting not less than 200 barrels and that the boat and nets are their individual property, and that if they cannot come up to these regulations no license should be granted to them.

"6. I would further say that these regulations should apply to all rivers of British Columbia and that all rivers should be governed by these regulations.

"7. I would further suggest that the present close season for trout should be reversed —that it should open from the 1st of October to the 1st of March only, as our markets are at that time bare of fish on this coast and trout are only fit for the market then. Also that there should be no limit to the quantity taken, as they are very destructive to the salmon spawn.

(Sgd.) "T. W. HERRING.

"New Westminster, 19th February, 1892."

The above communication was read by the secretary previous to its being ordered to be entered in the record.

Mr. Herring was duly sworn.

By Mr. Higgins:

Q. We will be glad if you will just answer a few questions that will be put to you. Can a man under the present regulations by any species of subterfuge or underhand work, hold more than one license? Can it be done?—A. No, sir. I do not think it can be done. Any man getting one license, he could not do so without violating the law, except he got more than one license.

Q. How could he get more than one?—A. Well, the cannery people might number the boats in duplicate and so give a man more than one. It has been done under the present system.

Q. Why is there no check upon these people? Are the licenses not stamped?—A. No, they are not stamped. A counterfoil is kept by the fisheries inspector.

Q. What do you think of the practice of having Sunday as a close time?—A. From 12 o'clock Saturday till 12 o'clock Sunday night? I think it very good—I will be willing to abide by that regulation.

Q. You say in your paper that nets should be of an uniform depth of fifty meshes, for the first two months of the year, why do you say that?—A. Because we are fishing in tidal water and the water comes very slack. Some parties use nets of from fifty to seventy meshes, because they find it advisable to use them—they use these nets below the city; from here down to the Gulf, sixty and seventy meshes are used and more fish can be caught, and they can double and treble us in one week this way. There is a decided opinion amongst the fishermen that they should use any kind of net with which they can catch fish.

Q. What do you think of fishing outside the mouth of the river? Do you think it injures the runs of fish in the river?—A. Well, I could not say. I would not think it injurious in a big year; it might be in a bad year. There are so many fish the canneries get swamped with fish, and men get salmon they cannot handle. One throw of the net fills the boats and then they go to the cannery. I have known a boat to be filled at 9 a.m., and as the Indians are paid wages they don't bother to do any more that morning, and often wait until 2 or 3 o'clock before taking them to the cannery.

Q. Then in a short season it would be injurious to fish outside?—A. In a short year the nets are constantly working and it would be injurious.

By Mr. Armstrong :

Q. And the majority of years are short ?—A. Well, we have different years—next year is expected to be a big year.

By Mr. Wilmot :

Q. What was '89 ?—A. '89 was the big year, '90 the next and in '91 the fish were just double what they were the fourth year before.

By Mr. Armstrong :

Q. Now, if this year's catch is double what it was four years ago, you will consider that the fish are increasing, will you not ?—A. If the fish are double what they were four years ago I will believe the hatcheries are doing great good.

By Mr. Wilmot :

Q. You will be willing to go in for more of them then, will you ?—A. Yes ; it will be sufficient proof of their effectiveness.

By Mr. Higgins :

Q. What are you now ? Do you work for a cannery ?—A. I am a fisherman now.

Q. As to this offal that goes into the river, do you know anything about it ?—A. Yes, I know something about it.

Q. What is its effect on fishing ?—A. I think at the mouth of the river its effect is very bad. Down there it floats down and lines the banks and gets foul of the nets—heads and guts, &c. It destroys the nets more than salmon do and makes the river water filthy—not fit for use unless cooked—if you were to drink it in the cannery season it would make you sick. We used to cook it like tea in order to drink it.

Q. Is it not a fact that many fish die up the river ? They become offal then too, do they not ?—A. Yes, but I have never seen many of them, they go to pieces. There was a time before the hot springs on the Harrison River were closed the fish would come up and leap and jump into the air and fall dead. There were hundreds and hundreds of them and we used to fish there and often picked them up half cooked—after death they were just as good as if they had been caught in the nets.

By Mr. Wilmot :

Q. Did you work in a cannery ?—A. Yes.

Q. What was the average size of the fish caught ?—A. Some were about 7 pounds and some about 9 pounds.

Q. All through they would average about 8 pounds, then ?—A. Yes, about that.

Q. How many fish are taken to make an ordinary can ?—A. Well, nine fish go to a case, with this average it would be five and three-eighths cans to a fish. You see there is the head off and the guts out and the tail off. Sometimes they used to use the tail part. A machine cuts the fish into parts to fit the cans, but in good years the part near the tail all goes as offal.

By Mr. Higgins :

Q. How long does it take before this offal disappears ?—A. Well, offal is something like a body that goes in the river—it takes so many days before it disappears. Some time ago the cannerymen used to make cribs to keep this offal in, but now it goes to the bottom and rises after a time when the bladders burst.

Q. Well, now, is it a fact that other fish eat this offal ?—A. Oh, yes ; thousands of them ; suckers and sturgeon are feeding on it all the time. It is great fun fishing for sturgeon ; they come to eat the offal, and at Ewen's cannery we have often had great sport fishing for them.

By Mr. Wilmot :

Q. You state in your paper that fifteen licenses are sufficient for a cannery ?—A. Yes, sir.

Q. What do you mean—that they can carry on a fair business with that number? —A. Yes; they can protect themselves. They can carry on business with fifteen licenses; they will get as many fish as if they had twenty.

Q. Then, if they had forty licenses it would but prevent the sale of a large quantity of fish from outsiders to them?—A. If they were allowed forty licenses, or even twenty-five, in a good year it would run them to their full capacity. Now, for instance, when the limitation was made and 350 licenses were given to canners, that was a good year, and Mr. Ewen was allowed twenty boats of his own. He was scared he would not get enough fish, and he had twenty-two outside boats—I was one of them myself—and the contract was that he was to take each and every good fish put on his wharf, and when the fish ran thick he could not take them, and so he had to lay up his own boats, and he even went so far as to threaten all of us that the cannery would be ruined and run down, and he tried to stop us from fishing.

Q. Then the twenty boats of his own would have been quite sufficient?—A. Yes; but he was trying to make too sure; the twenty would have been quite enough, but he wanted fish from outsiders too.

Q. Then you think twenty boats would be quite enough for any cannery?—A. Yes.

Q. Well now, when they get such large quantities of fish what do they do with them?—A. Well, if they have outsiders more than they can control, they haul off their own boats.

Q. When they get more fish than they want, do they ever throw them away?—A. Well, not now. I have known it to be done though; scow loads at a time were dumped overboard; these were caught, and when brought to the cannery it was found to be shut down until they were ready to go on.

Q. You don't know of that being done of late years?—A. No, not now; they withdraw their own boats.

Q. When fish are very plentiful do they make the same number of cans out of one fish?—A. Oh, well, they cannot help themselves; the knives cut all alike.

Q. But could it not be done?—A. No.

Q. Well, but when the fish are coming in very plentiful is it not probable they would cut off more of the head and tail than when fish are scarce?—A. No; they don't do that; the fish are always cut the same way.

By Mr. Armstrong:

Q. But you have said already that in a plentiful year three inches of the tail is thrown away?—A. Yes, that is true, the last piece goes off instead of into the can.

By Mr. Wilmot:

Q. And in small years this would be used up?—A. Yes. Now I will give you an instance. Just imagine a boat to bring in 1,000 fish—one boat for one shift—about three hauls of the net. I was afraid I was going to be cut off and fished for five hours. I took 1,014 fish and delivered them to the cannery.

Q. But if all others were catching fish in the same proportion would it not overstock the cannery?—A. Oh, yes, certainly, but then they shut down and limited us.

Q. What did you do with the fish that were not taken?—A. Oh, they took all the fish we caught that day.

Q. What did you get for the fish?—A. Ten cents each.

Q. What year was that?—A. The year before last—the first year the limit was on —1889, I think.

Q. Yes; that would be 1889. What was the price of fish this last year?—A. There was a difference. Mr. Ewen paid 20 cents, others paid 12½.

Q. What made the difference?—A. Well, when the syndicate was formed on the Fraser River, he had arrangements made with them that they were to get his pack for three years, and the canneries they bought out—the proprietors of these canneries—they were to run them the same as before, with a certain interest in the cannery, or sold out entirely, with the agreement that they were not to build any more canneries on the Fraser River in three years, and outsiders who didn't come into this arrangement—Mr. Ewen, he reserved his own cannery, but all the rest were included—well,

I can't say for Mr. Todd, he was, I think, outside of it. It was a special arrangement, but it did not work somehow or other; and Mr. Ewen, he had sold 44,000 cases of salmon before the fishing started, and I suppose he knew his own business and understood the capacity of his cannery, and of course he paid for fish accordingly.

Q. I notice you say in your memorandum that all the licenses should be the same cost. Some, then, are different?—A. Yes; on the Fraser River it is $20, and on the Skeena it is $5.

Q. Are the same cannerymen engaged on the Skeena as on the Fraser?—A. Yes, sir; and why should we not be allowed to fish on the Skeena as well as cannerymen. We are excluded.

Q. But do you mean to say that if any man on the Skeena wants to get a license he cannot do so if he pays the $5?—A. No, sir; but I contend we have just as much right to fish there as cannerymen, if we like. Now, last year I wanted to fish on the Skeena for salting purposes, and made application. I got a reply on the 15th July, refusing, after all the fishing was over. Now, my brother fishes on the Skeena, and he tells me that out of 100 licenses there only forty were taken up by actual fishermen. The cannerymen put in Indian names and got these licenses besides their own.

Q. In other words the canners got all the licenses?—A. Yes, sir, virtually they did.

Q. What do you mean by the river being locked? I don't quite understand that.—A. Why, the present system of limitation of licenses.

CHAIRMAN. Oh, yes; I see. Well, now have you anything further to tell us?—A. No, sir; I think I have gone over all the points on which I wished to speak.

JOHN E. LORD, of New Westminster, after being duly sworn, presented the following written statement which was read and ordered to be entered in the record of proceedings:

"(*Undated.*)

"SIRS,—The canners, fishermen, and those interested in the fishing industry can appreciate the action of the department in sending a Commission to inquire into the wants of the fishermen, and if possible to meet their views so as make the industry a success. The men who form the body of fishermen are, with few exceptions, not a class to be recommended, being constituted of every nation, creed and character. Under the present license law these men get licenses, while men from the Eastern Provinces, Newfoundland and Scotland are prohibited—these men being born fishermen and coming to the country hoping to follow their occupation are disappointed and are forced to turn their hand to some other occupation for a living and their services are lost to the development of the fishing industry. On this account, if no other, the limit should be taken from licenses; any British subject being a fisherman and intending to fish, on making application should obtain a license, the price to be not more than $5, and for the year. For the protection of the salmon, the close time from Saturday at 6 a.m. to Sunday at 6 p.m., is sufficient for all purposes. The present size of nets are well suited for their purpose. There should be no embargo on the taking of salmon trout or steel-heads, lake or river trout in the season; numbers now being taken against the law, few more would be taken if the law allowed. They are very numerous and the most deadly enemy of the salmon fry, in fact their taking should be encouraged and so increase the run of salmon. As regards offal from canneries, when we consider the great amount of salmon which die and putrify on all the streams running into the Fraser River away to the foot of the Rocky Mountains, the cannery offal is as a drop in the bucket, in fact the large portion of offal consumed by the large and small fish, and only that dumped in still and shallow water can be counted injurious to health and very slightly injurious to the salmon. Sawdust and other offal is far more injurious and should be prohibited being put in the river.

"*The Hatchery.*—The present site is not the best. Harrison Lake is preferable for all purposes. The time for taking ova is too late. Ova has been taken from the salmon after the canners refused to can them. The first run is best and strongest. Spring salmon should be propagated as they are the most marketable and no attempt has been made to propagate them.

"Canneries should have ten licenses each, and then only those in full operation. Markets, five licenses; freezers, five licenses. They all should depend more on the fishermen."

(*Not signed.*)

Mr. Lord.—Gentlemen, I speak in this manner because I believe it for the benefit of the river, and if we ever want to build up British Columbia with a class of good fishermen like we have where I came from—I belong to Halifax, N.S.—we should give licenses only to *bonâ fide* British subjects, men who would make homes and live here, and help build up the country. The present licensees are mostly foreigners and strangers who come from a distance, but have their names first on the list, and they go away and do no good for the country.

By Mr. Armstrong:

Q. But how do these people get these licenses?—A. Oh, well, don't ask me that; I don't know, but somehow the inspector we had—he that is dead and gone, he was too eager to please and to make things easy for all, and first come was first served. Now, the great trouble has been that the canners have endeavoured to gain complete control of the river. Last year they were working to get Japs here and settle them, and our own people would be done out of all work in connection with the salmon fisheries.

By Mr. Wilmot:

Q. Do I understand you don't limit the number of licenses beyond one to the ordinary fishermen? For instance, these men who are coming here to settle; is one license sufficient for them?—A. When the canneries are working the whole of the fish is given to the canners, and they could always get a sufficient supply of fish from outside fishermen who would sell the fish, and one license would be ample.

By Mr. Higgins:

Q. This traffic in licenses strikes me as a very serious thing?—A. Yes, it is, and something should be done. Now, it is this way: Many men succeed in getting licenses, and then they go and sell them to the highest bidder.

By Mr. Wilmot:

Q. Then you consider that licenses should not be granted to any one except *bonâ fide* British subjects intending to fish?—A. Yes; only those intending to fish.

Q. Well, now, there is another class—the small farmer who gets a license for $2?—A. I have no objection to any settler getting a license in that manner, but if he goes into traffic and sells to others, he should be on the same footing as all fishermen; but every resident fishermen and British subject should get a license, if he requires one.

Q. Now, as regards the canners, would you limit the number of canneries?—A. No; let there be no limit; throw it open to all. The market will regulate the matter. Now, there will be a couple of new canneries put up this year, and I think none of them should be granted more than ten licenses.

Q. And if they wanted more fish, they should buy them from the fishermen, you think?—A. Yes, they should—the fishermen can sell to no one else—they must look to the canners for sales.

Q. And the people employed in the canneries—they are not our own people—not resident citizens?—A. Not one of them, they are all Japs, Chinamen, Klootchies, Siwashes, &c.

By Mr. Armstrong:

Q. But they could not afford to employ white men in this work.—A. Yes, sir, they could—I will tell you—in about six weeks they do all their work. Now, what would be

a month's extra pay to men like the canners? They pay $1 a day to the Indian women and $2, say, to the white boys. The extra money for good white men would be a small affair to men making their thousands like the canners do.

Q. But do you know the cost of putting up a case of salmon?—A. About $2.50 for one case.

Mr. Armstrong.—I think it takes $4 nearly.

By Mr. Wilmot:

Q. Have you been in the canning business?—A. No, I have not. I am a fishermen.

Mr. Higgins—Oh, well, we can still take evidence from you as to the cannery work.—A. Well, I cannot speak with much authority on that.

Mr. Armstrong.—I don't think your suggestion as to breeding the spring salmon is a good idea.

Mr. Wilmot.—Well, I may say that when we first started breeding salmon here we thought of taking up the spring fish, but the canners and others said that the other fish was the most desirable.

Mr. Higgins.—Yes, I may say that Mr. Wood at my table to-day said that in England the demand was for the red fish and that the spring salmon would not take in the English market.

Mr. Wilmot.—Yes, that is a remarkable fact. I know, when there at the International Fisheries Exhibition, Atlantic salmon of a light colour was not thought anything of.

Mr. Lord.—Now, in regard to the hatchery they established here—it might just as well work all the year round as not.

Mr. Wilmot.—Well, I may say on that point I have recommended for some time that we should catch the early run of fish and impound them until ripe, but somehow this view has not prevailed. Now you have spoken of another fish—the steel-head—is it a salmon?—A. It is a salmon very much like the Labrador salmon and the greatest enemy of the commercial salmon. But I do beg of you that you will let us catch the trout. They are only brought in in the winter season, but then it is against the law.

Mr. Wilmot.—Our experience in eastern waters shows that by so much killing of the better kind of fish has resulted in the lower kinds increasing and becoming more numerous.

Mr. Lord.—Now another point—I do think the licenses should run for the whole year.

By Mr. Wilmot:

Q. Well, that would not result in so much danger here as in the east.—A. It would not interfere with the spawning of the salmon, because at other times than the cannery fishing time we would have to go down to the mouth of the river to catch our fish, and we would not prevent the spawning.

Q. This trout you speak of—what is it like?—A. Oh, a big fish, often as heavy as thirty pounds, and very much like the Scotch and Labrador salmon.

Q. Have you anything you wish to say further?—A. No, I think I have exhausted my remarks.

The Commission adjourned at 5.45 p.m. to meet again at 7.30 p.m.

19th February, 1892.

The Commission assembled at 7.45, and at once proceeded to business.

Present:—Mr. S. Wilmot, in the chair; Mr. Higgins, Mr. Armstrong, and Mr. Secretary Winter.

WILLIAM COSTIGAN, of New Westminster, presented himself and was duly sworn.

By Mr. Wilmot:

Q. Now, do you desire to give a statement of your views direct?—A. As far as I can.

Q. Yes, well, make them as concise as possible.—A. I wanted to say that I have been four or five years here fishing on the river. I applied for a license on and off, but could not get one.

By Mr. Higgins :

Q. To whom did you apply ?—A. To the fisheries inspector.

By Mr. Wilmot :

Q. Was any reason given ?—A. No ; except that the number of licenses to be issued had been granted. Then I see men—not fishermen—on the river who get licenses and who sell them to other people for $50. They didn't fish these last two years to my knowledge.

Q. Well, what next, sir ?—A. Well, I don't know of anything else—I can't get a license, and I want one.

By Mr. Higgins :

Q. Do you know who sold these licenses ?—A man named Ross got a license from another man and paid $50 for it.

Q. And did he fish under that man's name ?—A. He fished under that man's name —he had his boat. Grant, the man who had charge of the river, sold his license to another here.

Q. To whom ?—A. To Peter Nelson.

By Mr. Armstrong :

Q. Who did you say was the first man who got the license ?—A. Well, Ross got the license from another man.

Q. Could you get him and bring him here ?—A. I could let him know.

By Mr. Wilmot :

Q. Have you anything further ?—A. No, sir, I have nothing further to say.

Q. You follow the occupation of fishing, you say—if you don't get a license, what then ?—A. I fish for the cannerymen—I have fished all my lifetime, pretty near.

Q. Do you consider the value of a license at $20 is excessive ?—A. I do.

Q. Do you consider the value of licenses now granted the canners excessive for them ?—A. It is according to circumstances. I don't say it is too much for them, but it is for an ordinary fisherman.

Q. Do you think, in the occupation you wish to enter, that one license is sufficient ? —A. Yes ; one license is sufficient.

Q. You have had something to do with the canneries—now the cannery you worked for would have how many licenses ? Do you know ?—A. Forty.

Q. What cannery was that ?—A. Ewen's—he had two canneries.

Q. Were both running ?—A. I don't know—I didn't fish alongside the cannery.

Q. How did they get forty licenses ?—A. They had two establishments.

Q. Do you know the limit for the canneries ?—A. Twenty boats last year.

Q. Are twenty boats sufficient for a cannery ?—A. It is all according to the capacity of the cannery.

Q. Well, but take the ordinary cannery—are twenty sufficient ?—A. No ; not in proportion. It should be according to the capacity of the cannery.

Q. But suppose a man can fish twice as well as you can and he gets twice as many licenses as you ?—A. But he cannot fish with two licenses.

Q. Do you see much offal thrown into the river ?—A. Well, I don't have much chance to see—I just catch the fish and put them in the scow.

Q. You have never fished under a license at all ?—A. Yes, last year I did, but it it was another man's license.

Q. Did you buy it then ?—A. No ; we fished on shares.

By Mr. Wilmot:

Q. What probable number of fish did you catch with that one license?—A. About 4,500.

Q. Were the fish taken from you regularly by the cannery?—A. Yes, regularly, only two days we were limited to catch only so many.

Q. Are you in the habit of taking the fish directly to the cannery?—A. Generally we go fishing in the morning and often would not get in till night.

Q. Were you at any time refused the fish you brought?—A. Not last summer.

Q. You have been previously?—A. Yes.

Q. What was done with those refused?—A. They were salted.

Q. They were not thrown away?—A. I don't know, I never saw any.

Q. Have you any further remarks to lay before us?—A. No, sir.

PETER NELSON, of New Westminster, appeared and was duly sworn.

By Mr. Higgins:

Q. You have been represented as being a man who bought a license; have you it with you?—A. No, sir, but I have a receipt.

Q. Will you let me see it?—A. Yes, sir. (Hands to Mr. Higgins receipt as follows):

"April 18th, 1891.

"Received from Mr. Peter Nelson the sum of $50 for one boat and use of license "No. 18 for the term of one year.

(Signed) "JOHN WAGNER."

By Mr. Higgins:

Q. Who is Wagner?—A. A fisherman fishing on the river.

By Mr. Wilmot:

Q. Did you apply for a license?—A. I did, and didn't get one.

Q. What was the reason?—A. I don't know except that all were given out.

Q. Did you fish under the name of John Wagner?—A. Yes, sir.

By Mr. Higgins:

Q. You were John Wagner for this season?—A. Yes.

By Mr. Wilmot:

Q. Your boat was No. 18 and you passed for No. 18 also?—A. Yes, sir.

Q. Is this practice generally pursued?—A. Yes, sir.

Q. Were you aware you were doing something wrong?—A. No, sir; I didn't think it was.

Q. What number of fish did you catch with this license?—A. Three thousand.

Q. Sockeyes? All of them?—A. All sockeyes.

Q. What establishment did you sell to?—A. I sold my fish to Mr. Ewen.

Q. Was there any day that you caught these fish that the cannery could not take them?—A. Yes; two days.

Q. What did you do with the fish not taken?—A. I didn't catch more fish. I took in my fish caught in the morning and they told me not to bring any more. I caught 40 more, but these I sold fresh myself.

Q. The fish you caught and kept yourself—where did you clean them?—A. On the bank of the river.

Q. Where did you leave the offal?—A. On the bank.

Q. Have you any idea of injurious effects being derived from offal?—A. I have seen it thrown into the river, but I don't know of any serious effects. I have caught refuse in my nets when fishing.

Q. What effect has that?—A. I lost the net.

Q. Do you think throwing offal into the river is injurious to the fish?—A. Yes; I think it prevents fish coming into the river.

Q. You say also it spoils your net?—A. Yes, sir.

Q. Why do you say it prevents fish from coming in?—A. There is a bad smell, and it keeps them from coming in.

Q. Then you think there are two causes for injury—one stopping the fish from coming in, and the other the injury to your nets?—A. Yes.

Q. What is the usual size of fish you catch?—A. As small as four or five pounds.

Q. What size mesh do you use?—A. A six-inch mesh.

Q. How many meshes deep was your net?—A. Forty meshes.

Q. Could you fish satisfactorily with a less depth of meshed nets?—A. Yes, sir; I could fish in the channels.

Q. In what portion of the net when you take it up do you find the greatest number of fish?—A. Oh, they are most all over.

Q. As many at the bottom as the top?—A. Yes, sir.

Q. Can you recollect what number you may have taken in one day?—A. I have taken 1,100 in one day.

Q. In what time of the year would this be?—A. In July.

By Mr. Higgins:

Q. You say that throwing offal in the river prevents fish from entering the river—how do you account for the last few years? There have been several heavy runs?—A. I don't know, sir; I can't tell.

Q. Have you any idea as to it?—A. Well, some people give credit to the hatchery.

Q. Do you think throwing offal into the river caused the big run?—(Laughter.)—A. Oh, no; it wasn't that.

By Mr. Wilmot:

Q. About the hatchery—do you believe that yourself, or did you hear it?—A. I heard it.

Q. Then you still say that you know there were other licenses disposed of as this was to you—do you know of any names?—A. Yes, sir; I can give one—Capt. Grant, the fishery officer.

Q. He sold a license?—A. Yes, sir.

Q. In your fishing did you fish principally down at the mouth of the river?—A. Yes, sir.

Q. Are more fish caught at the mouth than elsewhere?—A. Yes, sir.

Q. What do you call the mouth of the river—is it out two or three miles from the lighthouse?—A. No; from the second red buoy.

Q. Do you think the fishing is too excessive at the mouth of the river for the benefit of the fishing above?—A. Well, plenty are sure to get up.

Q. They are more easily caught at the mouth, are they not? Why is this?—A. It is easier to get them, and it is nearer to the canneries.

Q. Is one-third of the channel kept open?—A. I don't know.

By Mr. Armstrong:

Q. You say Capt. Grant sold his license; to whom did he sell?—A. To me and John Wagner. Wagner had the license and told me he would sell it to some one for $50. Thus we had to pay Capt. Grant $50.

Q. But I don't understand; who had the license?

By Mr. Wilmot:

Q. But let us understand this. Was the license issued by the inspector of fisheries to Capt. Grant?—A. Yes, sir; we took it together and fished, and paid Grant $50.

By Mr. Higgins:

Q. Is this man here—here in the room?—A. (After surveying the parties present.) No, sir; he is not here.

By Mr. Wilmot :

Q. Then do I understand that Grant gave a license to Wagner and Wagner sold one-half interest in it to you.—A. Yes, sir ; that is it.

By Mr. Armstrong :

Q. Do you know where Wagner is ?—A. I think he is in town.
Q. Will you get him and bring him in to-morrow ?—A. Yes, sir.
Mr. Wilmot—Very well ; that will do, sir, if you have nothing further to remark.

KEKONI, a native of Finland, a fisherman and resident of New Westminster, was duly sworn.

By Mr. Wilmot :

Q. Well, what is your complaint ?—A. I have this complaint to make : that I have been in this country four years, and have been trying to get a license to fish here, but could not get it.
Q. What is your nationality ?—A. I am a Swedish Finn.

By Mr. Higgins :

Q. Are you a British subject ?—A. Yes, sir, I am. I took the oath here in Westminster.

By Mr. Wilmot :

Q. Have you a license of your own ?—A. No ; I could not get one.
Q. How did you fish, then ?—A. I had to go to a cannery and get the privilege of fishing with a boat of theirs.
Q. Had you to pay anything for it ?—A. I will tell you—the price of fish was 20 cents, but the cannery only paid 10 cents.
Q. Was that all the season through ?—A. That was in the sockeye run.
Q. Then the canneryman sold you a license he had for 10 cents on each fish ?—A. Yes ; I got about 3,400 fish, and, of course, that gave to the cannery $340 for the license and boat that were not worth $100.
Q. Is this sort of traffic carried on with other fishermen ?—A. Yes, with most of us. We were fishing for Mr. Ewen. He gave the highest prices. Others were giving but $6\frac{2}{3}$ cents, and keeping $13\frac{1}{3}$ on each fish. The reason of that is many cannerymen largely employ Japs. We have heard they are going to import many hundreds of them.
Q. But Japanese get less wages, don't they ?—A. Yes ; I know that for sure.
Q. Where did you fish ?—A. Down at the mouth of the river.
Q. Why did you go there ?—A. Because it is the easiest place to fish. You always have a good wind to sail up with, and the fish come in with the tide.

By Mr. Armstrong :

Q. Who were you fishing for ?—A. For Mr. Ewen.
Q. Well, was this 20 cents an universal price during the sockeye run ?—A. No, it was not an universal price. Only two men on the river paid 20 cents ; the rest, I believe, were paying $12\frac{1}{2}$ cents to outsiders.

By Mr. Wilmot :

Q. How many meshes deep was your net ?—A. Thirty meshes ; that is the shallowest net on the river, generally.
Q. In your experience of fishing do you think that a 30 mesh depth of net is sufficient for ordinary fishing ?—A. No, I don't say it is. It is better for the tide flats at the mouth of the river.
Q. And a deeper net further up the river ?—A. Yes ; and even in the channel down at the mouth.

Q. Would it, in your opinion, seriously hurt the fishing if 30 mesh nets were established altogether?—A. Yes; for in spring fishing you want deep nets—you want up to 50 mesh nets.

Q. And fish are taken in the lower part of the net as well as the upper?—A. Yes; especially in spring.

Q. Then, as there may be on some occasions, six, seven or nine boats going down the river, the 150 fathom nets would form a sort of continuous fence across the river?—A. Yes: but they are generally drifting with the tide. Yes, it would form a kind of fence.

Q. You think one license would be sufficient for the ordinary fisherman to carry on his work?—A. Yes, I do.

Q. What else do you do here?—A. In the winter time I do any kind of job I can get.

Q. What are you doing now?—A. I am doing nothing now—I am waiting for the fishing to commence.

Q. What induced you to come here—to settle, or was it the fisheries?—A. Yes; it was the fisheries. I was in the Eastern States first, in Massachusetts, and I got a Government pamphlet about British Columbia and I thought I would come out and try and do fishing.

Q. Have you ever got a license?—A. No.

Q. Have you applied?—A. Yes, but I didn't get one.

By Mr. Higgins:

Q. Do you know of any licenses being sold besides those mentioned to-night?—A. I believe it is a common habit.

By Mr. Armstrong:

Q. Can you give us the names of any persons you know of?—A. I could give names of persons who get licenses but do not fish them—they give them out and get one-third of the profits.

Q. Give us the names?—A. Mr. John Ross got one.

Q. Do you know where he is now?—A. I saw him in town yesterday—I think he is living down at the cannery, but I am not sure.

Q. Do you know of any other?—A. No, but Mr. Munn here might be able to tell you.

Q. Oh, yes, but we want what you know—we will hear from him by and by.

By Mr. Higgins:

Q. How long did you say you have been a British subject?—A. I got my papers in the month of June or July last year.

Q. What were your reasons for becoming a British subject?—A. Well, I intended staying in the country and of course it is no use unless you belong to it—one must become a British subject to get the full advantages of citizenship.

Q. Do you think you have got the advantages?—A. No, sir, I have not indeed.

By Mr. Wilmot:

Q. You say you had to pay 10 cents to the cannery for the privilege of fishing, or about $300?—A. Yes, sir.

Q. Do the canners furnish you with boats and nets?—A. Yes, sir, they do.

By Mr. Higgins:

Q. You say you have not received the full benefits of being a British subject. What do you think you ought to get—a license, for instance?—A. Yes, I should have got one. I don't think the canneries should get any licenses at all.

Q. But why not?—A. Oh, they are not fishermen, they are simply dealers.

By Mr. Armstrong:

Q. What is the cost of a boat and net?—A. Well, the boat and outfit will cost about $140.

Q. And do you not think that the cannerymen who gave you that boat and net should get something?—A. Yes, he should get something, but my rig cost $100 - ought he to get $300?

Q. But do not fishermen sometimes lose their nets?—A. Yes.

Q. And then you have to find another?—A. No, sir, the cannerymen would give me another.

Mr. Wilmot.—Well, sir, have you anything further to say?—A. No, I think not, except that I wish to get a license.

BENJAMIN MADISON, of New Westminster, presented himself and was duly sworn.

Mr. Wilmot.—Have you any distinct statement to make?—A. Well, I want a license, that's all.

Mr. Higgins.—But we have no power to give you a license.—A. Well, I will go away then.

By Mr. Wilmot:

Q. Are you under the same circumstances as the last man who gave evidence?—A. Well, no. I want a license and want to get one. I applied, but could not get one.

Q. What was the reason—were all taken up?—A. No, sir. I sent in my application and Mr. Mowat told me before he died that there were none.

Q. You have fished every year? How did you fish?—A. I fished by the season for different canneries, mostly with my own gear and sometimes with cannery gear.

Q. Then the cannery gave you boat and net?—A. Yes, I fished for them and I got one-third share.

Q. Then the system pursued by canners was to divide it into three shares?—A. Yes.

Q. How many fish did you catch?—Oh, I could not tell you—sometimes ten, sometimes twenty, sometimes more.

Q. But the average the season through?—A. Well, sometimes ten to twenty and sometimes more.

Mr. Higgins.—Do you think, Mr. Chairman, we should go on with this man's evidence; I do not.

Mr. Wilmot.—No.

A. Oh, sir, I don't mean anything: I just want a license, that's all.

JOHN McLASHLAN, a native of Scotland, now a resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, will you please state what you desire to say.—A. Well, I have been in this country for the last three years and a half and have always applied for licenses, but could not get one.

Q. What was the reason, were you told?—A. Yes, last year I got a line from Mr. Mowat and he told me that they were given to more deserving persons. Before we left home a Government officer told us we did not need any licenses here and when we came out we found it different.

Q. What have you been doing since coming here?—Oh, anything I could get. I have been working on the Government wharf and have been working for the cannery as a net-man by day's work.

Q. Are there many white people engaged in the cannery besides yourself?—A. No, sir, only the foreman in the cannery and the one who looks after the retorts and another looks after the women, and another—perhaps ten white men altogether.

Q. What are the rest?—A. Chinamen and Klootchmen.

Q. What number of those would be working in the factory besides your white people?—A. Oh, about 60 Chinamen and 20 or 30 Klootchies, and some young Indian boys and girls, over and above these.

Q. Then about 100 altogether?—A. Yes, about that. Perhaps more, perhaps less.

Q. Is there any marked difference between the labour of the Chinamen and that of the white men?—A. Well, the white men do nothing as regards the fish. The white men look after the Chinamen and have the higher classes of work.

Q. What wages might you have received?—A. $40 a month till the sockeye run and $60 after that.

Q. Do you know the wages paid to the Chinamen?—A, I don't know; some are paid by the piece and some by the day.

Q. Then you have not fished on the river by yourself?—A. I worked for Mr. Ewen. We were to fish for 10 cents and pay 6 for his gear.

Q. Your complaint is, then, that you don't think you are dealt fairly with in not getting a license?—A. Yes, sir; I think cannerymen have too many licenses.

Q. Then you think Chinamen are injuring the whites?—A. Yes, sir; the Chinamen are spoiling this country. (Laughter.)

By Mr. Higgins:

Q. Do you know of any traffic in licenses? Can you mention any names?—A. I do know of instances, but I can't tell names.

Q. Are they British subjects?—A. I don't know—he is an old-timer here—he gets two or three licenses.

By Mr. Wilmot:

Q. Can't you get his name? Does he carry on business here?—A. No, sir; but he lives in the City Hotel. (Here one of the audience addressed the witness). I find his name is Fred Kaye.

Q. Oh, very well. Have you anything further?—A. No, sir; except that I'd like to get a license, that is all.

P. WALGRAN, a native of Sweden, now a resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. You say you are a Swede; how long have you been here?—A. I am a Swede, and have been here since 1882.

Q. You are a fisherman?—A. Yes, sir.

Q. Have you obtained licenses?—A. I never got one yet.

Q. What reason did you assign for not having got a lincense?—A. Well, I don't know—persons who have lived here a long time should get licenses first, I suppose. I have been fishing other men's nets on shares.

Q. Were they fishermen or canners?—A. Fishermen.

Q. What did you pay for your share?—A. One-third.

Q. What number of fish did you catch last year?—A. Last year? A little over 3,000.

Q. What cannery did you sell to?—A. Mr. Ewen's.

Q. What was the share you gave for the privilege of fishing with his boat and net?—A. One-third.

Q. Did you on any days bring any more fish than the cannery would take?—A. No, sir; they always told me if they didn't want them before I went out again.

Q. Were you ever obliged to throw fish away?—A. No, sir; but I have been limited. The year before last I was limited to 500 fish a day.

Q. Is that a usual average?—A. No; previously you could catch more.

Q. Do you mean by day twelve hours, or day and night?—A. Yes, sir; twenty-four hours.

Q. What is the depth of net you fish?—A. Forty meshes.

Q. Do you think there is overfishing at the mouth of the river that would be detrimental to fish?—A. No, sir; there is no room for all the fishermen—some are down the river and some are up the river.

Q. Do they divide in turns?—A. No, sir; they stay down or up.

Q. Are there more fish at the mouth than up the river?—A. The biggest number was caught last year up the river just above the town here.

Q. What is the average weight of sockeye?—A. About five pounds is, I think, a fair average.

Q. What is the average of the quinnat or spring salmon?—A. Ten pounds, more or less.

Q. You are dissatisfied because you cannot get a license—would you be satisfied with one license?—A. Yes, sir; that is all I can manage.

Q. Do you think the fee of $20 is too high?—A. Yes, sir; it is too high for a man who has to make his living out of it.

Q. Then you think the difference between $5 and $20 would make a great deal of difference in a man's living?—A. Yes, sir; in slack years it would.

Q. What did you get for your fish?—A. 20 cents—or I got one-third of that really.

Q. How many years have you been fishing on the river?—A. Three or four years.

Q. Was last year expected to be bad?—A. Well, it wasn't near so good as the year before.

By Mr. Higgins:

Q. But did all think it would be bad?—A. There are generally two good years and two bad.

Q. What do you think about throwing offal into the river?—A. Well, I don't know anything about that.

By Mr. Wilmot:

Q. Your main complaint is because you cannot get a license?—A. Yes, sir; that is my trouble.

Q. Very well, sir, that will do if you have nothing further.

JAMES BEER, a native of England, a resident of New Westminster, and in British Columbia for twenty-six years, a general merchant and cooper by occupation, was duly sworn.

Mr. WILMOT.—Well, sir, we will be glad to hear your remarks.—A. There has been, of course, of late years since the limitation has been put on licenses, considerable dissatisfaction on account of the injustice done to a great many, and my opinion is, after nearly thirty years in this country, that there should be a free right and open river to all British subjects who wish to fish, and have a boat and net; and as regards a close season, I believe that the close season is sufficient as it is.

By Mr. Wilmot:

Q. What do you mean by "close season?"—A. I mean the time in which the boats have to be out of the water—I believe that is sufficient for the purpose.

Q. Can you relate what that close season is now?—A. Well, I think it is from Saturday morning until Sunday night, and as regards an annual close season I do not think that necessary at all. My experience is that there is no danger of diminishing the supply of fish by the catching of them. I believe that if there were no fish caught in the river except what men would sell from door to door, that the river would not fully hold them. I consider that the spawning beds are overflooded with ova and that one

fish roots out the spawn of another and that possibly we do not get as many fish raised as we would if all were caught: and as regards the offal I don't think it any detriment to the fish, for if that was so the dead and dying fish would be enough to kill off the fish alone.

Q. May I ask you as to the Sunday time—do you think there are not a number of people here who think the Sunday should not be used for fishing?—A. Yes, I am one of those myself—but if injury is done to a great industry, I think it might be allowed.

Q. Then with your views, if a man wanted a hundred barrels—you are a cooper—do you think you would be justified in making them on Sunday?—A. No, I would not give them to him.

Q. I merely put it to you as an illustration.—A. But there is the difficulty, if the canners have no fish to go to work on on Monday morning before the fishermen can get to work, with such a very short season as we have, it would be very harmful.

Q. Then you consider there is no use in the close time as at present.—A. I do not think it necessary.

Q. But do you think it of use?—A. Well, I knew this river and the Columbia when there was scarcely any fishing at all and I was making barrels for salting, and I know we had great difficulty in getting salmon to fill the barrels.

Q. But were there as many fishermen then?—A. Oh, of course not, but still I don't think the fish could have been caught even if the fishermen were there.

Q. Now about the offal. You think it is no harm to fish—what harm is it, do you think, to the human family—does it create a stench?—A. Well, no; I don't think it does harm—I do not know of it.

Q. But would you not say from a sanitary point of view it might do harm if it created a stench?—A. Yes, I think it would undoubtedly.

Q. Have you any further remarks you wish to make?—A. No, I think I have told you the points on which I desired to speak.

LOUIS L'HENAFF, a native of France, a resident of Steveston, and a fisherman, was duly sworn.

By Mr. Wilmot:

Q. How long have you lived here?—A. Twelve years. I am a fisherman and work for the canneries as a net-man.

Q. Have you ever fished under license by yourself?—Yes, sir. What I want to say is that for the last three years restriction has been made and I could not get a license. This is my only trouble.

By Mr. Higgins:

Q. Are you a British subject?—A. Yes, sir; I have sworn allegiance.

By Mr. Wilmot:

Q. Are you a native of Canada?—No, sir; I am a native of old France.

Q. You have been fishing for the canneries—as boatman or netter?—A. Yes, sir; all I want to say is, I want a license. I have asked for one every year for the last four years, but have always been refused.

Q. Do you know of barter or sales of licenses?—A. Yes, I do, but I could not be definite about it.

Q. Do you think if you obtained one license it would be sufficient for all your wants?—A. Yes, sir; without transfer.

Q. What do you mean by that?—A. That I should use it, or leave it alone and attend to other business.

Q. What do you know about the offal? Is it a fact that all the offal from canneries is thrown into the river?—A. Well, certainly a lot is wasted and thrown in, but I don't know anything about that. I came here to live and let live. I want a license, that is all and I don't want to interfere with any one else.

Q. Well, but what we would like you to answer is this: do you know or not that all the offal is thrown into the river?—A. No; not all, because some are making oil out of it.

Q. What cannery were you working for?—A. Oh, I have been working here for three years, and I have been on the Skeena River for two years.

Q. What course is pursued on the Skena as to offal?—A. Oh, it is thrown into the river. That is the only place to put it.

Q. Do you think it is injurious to anything?—A. I don't think it is injurious to anything; it is food for other fishes; I don't think it hurts anything; it has been there for years; we have all drank of the water from the river for years and we have not died yet. This is not what is the matter; we want licenses, that is all. There is too much gambling in licenses.

Q. Well, how does it affect you?—A. Well, it throws me out of here. I had to go to the Skeena, but there the canners had most of the outside licenses; they are divided among the canners in somebody else's name.

Q. In what way do Indians fish there?—A. Under the cannery licenses—the cannery pays the fee—but now settlers are beginning to take up licenses.

Q. But you said all licenses were taken up by the canners?—A. Oh, well, they were until very lately.

Q. What is the usual size of sockeye salmon up in the Skeena? Will they average about seven pounds?—A. About seven pounds when they come out of the water.

Q. How many cans will you get from one salmon there?—A. Oh, I believe about five cans, sometimes four and a half. I could not testify as to that; I am not a canner; I am a fisherman; I never weighed them.

By Mr. Armstrong:

Q. What is the size of sockeye on Fraser River?—A. Oh, several sizes; I have seen some as high as 12 pounds.

Q. Well, what about the average?—A. All through about seven pounds.

By Mr. Wilmot:

Q. You cannot vouch for any exact statement as to the number of cans from one fish?—A. No; I never made statistics; I don't know.

Q. How many meshes deep are the nets used on the Skeena?—A. No deeper than 35 meshes; that is the deepest.

Q. Are any seines used on the Skeena?—A. No, all drift nets.

Q. Are fish caught there principally at the mouth or farther up the river?—A Everywhere, except that they are not caught above tidal water.

Q. How far does the tide back up the water in the Skeena?—A. I have not been up that far.

Q. How wide is the river where most of the fishing is carried on?—A. About half a mile wide.

Q. Is the water more shallow there than up the river?—A. Yes; I think so, even the channel is shallow, and the fishing is carried on the same as here.

Q. Have you anything further to tell us?—A. No, sir.

BERNARD BUCK, a native of Norway, a fisherman, and resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. Do you desire to make a statement?—A. Yes; I understand the cannerymen were going to ask for an increase in the number of licenses and let every man get a license, but if every man is to get a license, and the cannerymen get all the licenses they want, we could not make a living. It don't matter whether you are a fisherman

or not, the cannerymen are able to get licenses, and now they want more. If the cannerymen get more licenses and give them to others than actual fishermen, then we cannot make a living. I have fished under licenses; my only complaint is in the fear that the cannerymen will get more licenses; they get too many now. I have been working for Mr. Ewen, having charge of the whole cannery department, and I know that in a big run they could keep the establishment going in good order with 15 boats.

Q. And when there is a big run of fish and the cannery has 15 boats running, can you as a fisherman dispose of your fish?—A. Well, I only mentioned one instance and it was in the big run, and with 15 boats they had enough to keep the whole business going.

Q. Then the canneries have too many licenses and so affect seriously the livelihood of the fishermen?—Yes.

Q. But suppose you reverse it and say the canners only have a few licenses and you have one each, would you not control the canners?—A. No, not at all; we must sell to the canners anyway.

By Mr. Higgins:

Q. You think then the canners should not have any licenses?—A. Yes; they could buy their fish just as cheap—we must sell our fish to the canners.

Q. Then you will be able to dictate to the canners and control the salmon fishing business?—A. No, I don't think we would.

Q. But capital should have some advantage, you know?—A. Well, they are too much protected now. I know all about them—I have worked for them long enough.

By Mr. Wilmot:

Q. Do you know anything about the offal?—A. I could not tell you anything about that. I don't think it does any harm. I have fished right along where the offal was going down and caught fish just as well.

By Mr. Higgins:

Q. How long does offal remain before disappearing?—A. Oh, the little fish eat it all up—it does not remain long.

Q. But if the cannery stops for a day or two, does the offal remain there?—A. No, I never saw it, except at the mouth of the river.

By Mr. Wilmot:

Q. Oh, it gets there does it? We have been told that it injures the nets.—A. I have heard that.

Q. Suppose the offal gets into the net—would it not prevent the salmon from getting into that net?—A. I never saw any prevented from coming into the net.

Q. Were you fishing last year?—A. Yes, sir.

Q. Where?—A. Down at the mouth of the river. That is the place where we fish for sockeyes and cohoes.

Q. What was the average number of fish you caught during the season?—A. Something over 4,000 fish.

Q. What price did you get for them?—A. 20 cents.

Q. To what cannery did you sell?—A. Mr. Ewen's.

Q. Do you know of the sale of licenses to fishermen who could not get them through the proper officer? Do you know of fishermen who purchased licenses from others?—A. Well, I can't say—many fishermen fished on shares.

Q. What depth of mesh did you fish?—A. I had 45 meshes deep.

By Mr. Armstrong:

Q. Curiously enough, all you men in your evidence speak of years of big runs—you don't speak of general averages—why don't you speak of other years?—A. Well, because there is nothing in it in other years—we don't make anything.

Q. How many boats do canners want in a bad year, or if 15 boats would be enough in a good year? We want an average—we are being misled because we are

hearing of only the big runs.—A. Well, in a big run the canners make bigger preparations for a big pack. We have two good years and two bad ones. In a big run they calculate on a big pack and make a great number of cans, and then they can get all the fish they want with their own boats—in a small run they want all they can get, and they run after us for the fish—we are very good men then (laughter)—in a big year we have to run after them.

Q. Would it not pay to salt the fish in the big years? Some canneries salt them in big years.—A. What canneries?

Mr. Armstrong—Well, all, don't they.

Witness—No, sir; some persons have salted salmon—they pay 5 cents for the fish.

Q. Do you know what it takes to put up a case of salmon?—A. Yes; about $2.80—I am not a canner, but I consider that is about the price.

Q. How many fish fill a case?—A. Eleven sockeyes will fill a case.

Q. And what do they cost on the average?—A. They have been paying 10 cents since the limitation was put on, but before that one and a half or two cents.

Q. And how many would you catch with one net?—A. Some have caught as high as 8,000 or 9,000.

Q. The average price of fish is then, say, 10 cents. Now, what does it cost to clean the fish and put them up?—A. Well, I don't know the details. I understand it costs $2.80 per case—this is as far as I know. I have been told it is $2.80 by the cannerymen themselves.

Q. Oh, you are telling us hearsay evidence, are you? You should tell us nothing but what you know for a fact yourself.—A. James Wise told me.

Q. James Wise never had a cannery in his life—how many years ago is it since he had one?—A. It might be ten years or so or more than that—I was very young then.

By Mr. Armstrong:

Q. Then you don't know when he told you?—A. I don't know exactly when it was—I have been here since 1875.

Q. Very well, but we don't want anything except what you know. We are not going to take down any hearsay evidence. Now, do you know whether it costs more to put up a case of salmon now than it did some years ago?—A. Oh, I cannot tell you that.

Q. But of course you know that it must cost more when 20 cents is paid than when 10 cents is given?—A. Oh yes, of course.

By Mr. Wilmot:

Q. Well, sir, have you any more remarks to make?—A. No; I think not at present.

The Chairman then declared the Commission adjourned at 10 p.m., to meet again in the same place (Court-house, Westminster) at 10 a.m. 20th February.

New Westminster, B.C., 20th February, 1892.

Second Day's Session.

The Commission was called to order by the Chairman at 10 a.m.

Present S. Wilmot, Esq., in the chair; Hon. W. D. Higgins, Sheriff W. J. Armstrong, C. F. Winter, secretary.

FREDERICK KAYE, of New Westminster, a native of England, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, we will be glad to hear any statement you may wish to make?—A. Well, it is rather a delicate question—if I should consider everything I have to——

Q. If you have any views generally you wish to state you may do so, you know.—A. Well, sir, my general impression is that if you gave everybody licenses the matter would regulate itself. You should give everybody licenses, gentlemen, that is what is the trouble.

Q. Have you anything to say in regard to the disposition of the offal—the throwing of vast quantities into the river—what effect has it, in your opinion, upon the fisheries, or from a sanitary point of view?—A. Why, there is a multitude of small fish that devour it as fast as you throw it in—this is well known.

Q. Then you think that quantities of offal, amounting to millions of pounds, is all eaten up?—A. Yes; all of it—millions of pounds.

Q. What effect has it upon the inhabitants?—A. It is thought injurious by some, but I have drank the water of the Fraser for years and it has had no effect. I can only say that it never affected me—I don't know how other people are constituted.

Q. What about the limitation of the number of nets as to canners or fishermen themselves?—A. I think every man should get a license.

Q. You do not believe in any limitation whatever?—A. No limitation. Give every man a license. There is plenty of fish. I cannot go elsewhere and catch all I want. The fish from the Skeena came here last year.

Q. Would you say, in giving nets to all, to include foreigners?—A. Oh, no; decidedly not—no foreigners—give them to British subjects. They will soon get tired of getting them if it does not pay.

Q. Will one license each be sufficient?—A. Give him more if he has money and will put it into the industry.

Q. Are you of the opinion that it would be just and safe that licenses should be given indiscriminately, both as regards number and fishermen?—A. Oh, no; I would not give an unlimited number, but if a man has capital to put up a lot of fish, let him show proof and get more licenses.

Q. Then if a man has capital and wants licenses, he should get them and carry on business as he likes?—A. If he has the money to put up the fish, he should have the licenses; if he has not the means to carry on the work, he will not apply for what he can't use.

Q. Does this apply to fishermen and canners alike?—A. Yes; to both alike.

Q. What about the close season?—A. It is proper as now. It preserves the fish and gives fishermen rest. It works well.

Q. Are you an advocate that fishing should be allowed on Sundays?—A. No, sir; I am not.

Q. A close time then from six o'clock Saturday to six o'clock Sunday night?—A. Yes; and that is quite sufficient.

Q. Do you not think the whole of Sunday should then be given to the close time?—A. I think it proper, as far as I know of.

Q. What about an annual close season?—A. It would be good and proper; nothing can be better.

Q. What are your ideas as to limits of fishing on the Fraser River—should fishing at the mouth be curtailed?—A. Well, I don't really understand that.

Q. Well, at the mouth of the river—should there not be a limit where there should be no fishing?—A. You have no jurisdiction to do that, have you? If you cut——

Q. Never mind that. Do you think it advisable in the interest of the fisheries, that a portion of the river at the mouth should be excluded altogether?—A. It would be as well that a portion should be set off at the mouth. Of course, if you catch fish at the mouth, you drive them away to other places.

Q. Are you a practical fisherman?—A. I am, and I would like to meet the man that knows more about it.

Q. Should licenses be transferable, say to canners and others?—A. Well, the canners never fish their licenses; they always transfer them to Indians and others. A man should be allowed to transfer his license if he likes; suppose he takes sick, he must get another man to run it. If a license is granted it is mine, and I should do as I like with it.

Q. What depth of nets do you use?—A. I fish with 30, 40 and 50 meshes.

Q. What standard would you say—suppose one fixed?—A. Thirty and 40 meshes would suit well.

Q. Are the fisheries in the Fraser River decreasing or increasing within your knowledge?—A. My dear sir, the last year's run you had was as big as ever seen—it stands to reason then that the fish must be increasing. This river would supply the whole world if there were fishermen enough to catch them.

Q. Have you any knowledge of facts of overfishing in the Columbia River?—A. The Columbia was never as big a fishing river as the Fraser.

Q. Then overfishing has no effect, you think?—A. In a long time it may.

Q. Then do you not think it would be good to make rules for the future?—A. Oh, well, it is immaterial to me 100 years from now.

Q. Then you don't think overfishing would affect the Fraser?—A. No; not in our time; of course it is bound to tell in time.

By Mr. Higgins:

Q. Mr. Kaye, how many licenses did you hold?—A. Two; I applied for two.

Q. Are they personally to you?—A. Yes; I used to get five.

Q. Were they issued to you as canner or fisherman?—A. As a fisherman. I sold my fish.

Q. Did you hold two licenses last year?—A. Yes; but I let them out. I was taken sick and I fished them on shares.

Q. Were you aware that you got two licenses while there were other men who did not get any?—A. Yes.

Q. How do you account for that?—A. Oh, I don't know.

Q. Who gave you the licenses?—A. Mr. Mowat.

Q. And you don't think the throwing in of the offal a bad thing—don't you think it has a bad effect?—A. No; I tell you there are millions and millions of fish, and the little fish are in myriads—you could catch a barrel of them in a minute without a net—that will show you how thick they are.

Q. Do you think there is as much offal goes in the river as dead fish come down?—A. Well, I cannot say how many dead fish come down; there are a great number.

Q. At what season of the year is that?—A. In September.

Q. Are they supposed to poison the river?—A. Oh, I don't think so—we often get them in the nets from the back part.

Q. Do you think canners should be deprived of licenses? Say 100 were given on the river—would you give all of the hundred to fishermen and none to canners?—A. No; I would say give so many to canners, and so many to the fishermen. The canners can protect themselves.

Q. Well, if all were given to fishermen, would they have a monopoly?—A. Oh, yes; it would be like the Columbia River. The price of fish would be put up.

Q. You go in for giving licenses to all?—A. Yes; I would give them all licenses—if you do, gentlemen, the business would regulate itself. Give the poor man that wants to work a license, and if he does wrong with it, it is his lookout and not yours. If the business does not pay, he will get out of it.

Q. Have you known of Americans or foreigners fishing under licenses to the exclusion of British subjects?—A. Well, I have heard of such things, but I cannot state so positively. I have known of a stranger to come in and go and become an Englishman in less than twenty minutes. I don't know how he did it, but it is a fact all the same.

Q. Well, it has been stated here that a resident of Washington has got a license here?—A. Well, I guess he went to a broker and fixed things. I have heard lots of things about such instances, but I cannot tell exactly.

Q. But then men who live here cannot get licenses?—A. Well, it has been done—I have known men get licenses who didn't know one end of the net from the other. I don't know how it is done. Then I have known lots of good men here who could not get a license.

By Mr. Wilmot:

Q. Was that not because the whole number of licenses to be issued were taken up?—A. Well, I don't know what the reason was—they could not get a license, that's all.

Q. Then you think everybody should get licenses?—A. Yes; everybody—the business will regulate itself.

Q. You speak of dead fish coming down the river—how were they coming?—A. Many were wriggling and nearly dead.

Q. Do you think if they got to the sea they would revive?—A. Well, perhaps, some would—I daresay they would.

Q. The proportion is so great they come tumbling and wriggling—is that your experience?—A. Yes; that is it.

Q. Would you say "all persons" who got licenses should include the farmer, settler, fisherman and Indian?—A. No; not by a jugful—if a man has another occupation he should keep at it.

Q. But these people are all residents, why should there be any objection?—A. If a man is a farmer let him stay at farming. I am a fisherman, I don't go farming.

Q. But would you not let him fish for himself?—A. Oh, yes; let him fish for himself, but he should not sell.

Q. Should the Indians get licenses?—A. Yes; God gave them the fish—the river belonged to them—they should have a license. They were the first people here and I don't see why they, of all people, should be deprived of the right to fish.

Q. Well now, can you express an opinion as to what would be a fair number of licenses for the canners?—A. I beg your pardon, sir. I have never been in the cannery business. I could not say, and I would not like to hazard an opinion.

Q. Oh, very well, we thought perhaps you would like to give us an opinion—very well, if you have nothing further?—A. No, I have no further remarks to make, sir.

COWAN D. GRANT, of New Westminster, a native of Nova Scotia, and a master mariner, was duly sworn.

By Mr. Wilmot:

Q. What are your views in regard to the disposition of the offal in the river?—A. I think if the offal is put in deep water it has no effect, but if put near the shore it might be dangerous.

Q. Where is the offal generally put, in deep water or along the shores?—A. In deep water generally.

Q. Are the canneries situated in deep water?—A. Yes; most of them are.

Q. Then as it floats down river it gets into the bays and sloughs?—A. Well, you don't see much of it—there are so many little fish that eat it up, and if in cribs it will be all consumed.

Q. Are there cribs in the canneries?—A. Yes, sir, most of them have them.

Q. Would small pieces of offal, such as entrails and small pieces, get out of the cribs? Are they sufficiently close to keep them from going out?—A. Well, so far as my experience goes, I never see any of it in the nets.

Q. Have you heard it gets in the nets?—A. Well, I don't know, I never saw it.

Q. What do you think of the limitation of nets? Should they be free to all in numbers, that is to anybody who applies?—A. I think so, sir, but not to foreigners.

Q. Do you think one license quite sufficient for the ordinary fisherman to pursue his operations?—A. Well, if a man has a contract it would be necessary to have more, perhaps, but if he is just fishing for himself one might do, but sometimes two would be better.

Q. Well, but if one got two and another four and so on it would be too numerous—would you not give everyone one each and be sure?—A. Well, perhaps one would be a proper number.

Q. Have you any experience of the number required for canners to carry on their business?—A. Well, I don't know.

Q. You could not give an opinion as to the number required for an ordinary cannery?—A. No, sir: I don't know. In a big season ten to twenty boats would keep them, but in a poor season they would want more, perhaps double that.

Q. Then have you found about twenty or twenty-five boats the average?—A. I am not posted in the cannery business, and so I cannot very well tell.

Q. What do you think of the close season—is it correct as now?—A. Yes, sir; I think it is all right.

Q. Would you give all Sunday for a close season?—A. I think it would be better to have all Sunday till 12 o'clock.

Q. Can you express any opinion as to an annual close season—would this be advisable?—A. Well, at the end of the season the sockeyes get very thin and nasty, but our spawning grounds are off the Fraser—I don't think it matters.

Q. But if fish get past these nets and get to the tributaries should fishing be allowed there—on the tributaries?—A. We don't allow any fishing on the tributaries.

Q. Then you think there should be a close season?—A. Yes; on these tributaries.

Q. Do you think there should be a portion at the mouth of the river where no fishing should be allowed—there is a large amount of fishing done there now?—A. Yes, a good deal, and of course it lessens the number which gets up.

Q. Would you allow any British subject to get a license?—A. Yes, sir; and the number should not be limited.

Q. Would you allow the canners to get as many as they want, and also fishermen?—A. Yes, sir.

Q. Well, if the canners get all they want what effect would it have?—A. Well, it would hurt the fishermen's business for they depend on the canneries for the sale of their fish, but if every man was allowed a license it would regulate itself.

Q. Would a cannery, if it had sixty licenses ever employ an outside fisherman at all?—A. Well, I don't suppose they would.

Q. Then there should be some controlling power as between these industries—that would be fair, would it not?—A. Yes, sir; that seems but fair.

Q. Well, that could only be done by limitation. What do you think of this speculation in licenses—do you think it just, for often a deserving man cannot get a license?—A. This should not be done, but a man may have a partner. In the first place a man gets a license and a number, and he is liable for whatever may be done.

Q. In the course of your duties as a fishery officer, you must have noticed the nets, their length, depth, &c. What number of meshes in depth are generally used?—A. Thirty to forty, it depends upon the channel.

Q. Would it be safe to limit the depth of net?—A. No, sir; I don't think so.

Q. Do I understand that the fishermen here have certain localities?—A. Yes; some have.

Q. What portion of the whole number?—A. I cannot say exactly.

Q. And local fishermen should have depth of net to suit the water and the rest would have all alike?—A. Yes, and the average would be thirty and forty meshes.

Q. Do you think if the depth of net were lessened more fish would get up the river?—A. Well, I don't know about that, when Saturday comes the fish get up all right.

Q. When fish come in they strike the net, few get under it, very few get around it, those that do are caught by the next net, I suppose none get over it?—A. I have seen some jump over it.

Q. None get under it?—A. Well, I think some get under, though I do not think the fish take the bottom when they come in.

By Mr. Higgins:

Q. In your experience of salmon do they swim low or high?—A. I think high, sir

Q. You think then thirty or forty meshes—how many feet would that be?—A About twenty.

Q. In hauling in your nets have you found most of the salmon in the meshes below or above?—A. They mostly strike the top of the net—sometimes lower down, but generally at the top.

Q. You are a practical fisherman?—A. I have been.

Q. Did you fish last summer?—A. I had a partner fishing—I got so many fish out of those that were caught.

Q. Have you any recommendation to make as to licenses going to certain people—do you ever act as broker or know of a traffic in licenses?—A. No, sir; I don't.

Q. Have you known American citizens to get licenses while men on the river got none?—A. No, sir; I don't know that, but I know plenty of men here who could not get licenses.

Q. How long have you been employed by the Government?—A. I have been on two or three years.

Q. Do you fish?—A. I did last year and two or three years ago.

Q. Are you still an officer of the department?—A. Yes, sir.

Q. In regard to the offal, you don't know of bad effects from it being thrown in?—A. No, sir; not here.

Q. Is it offensive?—A. No, sir; not in deep water.

Q. Is the number of salmon that die up the river very large?—A. Yes, sir, very large, particularly in the creeks.

Q. Then they are swept into the main river and go down until they dissolve?—A. Yes, sir.

By Mr. Wilmot:

Q. Have you ever seen fish in autumn floating down the river?—A. Oh, yes; I have seen lots of them.

By Mr. Higgins:

Q. In regard to licenses—you say you think licenses should be given to every one, do you think they should be made transferable?—A. Well, my idea is you cannot fish alone, you must have a partner and I think it should be applicable to both.

Q. But as to the traffic in licenses?—A. Oh, well, I don't know as to that, but if I have a partner I don't see why I should not give it to him. The party getting the license is responsible.

Q. Have you known of anybody except fishermen to hold licenses?—A. No, sir.

By Mr. Armstrong:

Q. You say you had a license last year and fished it on shares—now, if any one stated you sold half of that license for $25, would it be true?—A. No, sir; I was to get so many fish out of what were caught, I did not get money.

By Mr. Wilmot:

Q. In order to clear this matter up a little more—you made an arrangement with another man to get a certain portion of the fish?—A. Yes, sir.

Q. Well, when you reckoned up did he give you fish or money?—A. Oh, he gave me the value of the fish in money.

By Mr. Higgins:

Q. When were you appointed an officer?—A. On 25th of March.

By Mr. Armstrong:

Q. What pay did you get?—A. Sixty dollars a month and it lasted for seven months.

By Mr. Higgins:

Q. What effect have steel-heads on salmon spawn?—A. A very bad effect, sir; trout also are very destructive.

Q. Then you think it a mistake to preserve the trout?—A. I do, indeed, sir.

By Mr Wilmot:

Q. A great deal has been said about fish eating salmon spawn,—do these fish destroy the spawn on the beds or is it the young fish?—A. I have seen trout and steel-heads picking up spawn; I have not seen them rooting for it.

By Mr. Higgins:

Q. Steel-heads are not preserved by law, are they?—A. Well, sir, trout are and steel-heads come under that.

By Mr. Wilmot:

Q. But no; steel-heads are not trout—a steel-head is a salmon?—A. Well, yes; I suppose, properly speaking, they are salmon.

Q. Are any steel-heads to be obtained at this season of the year?—A. I think they are coming in now—they generally come in about the first of March.

Q. If there are any of these steel-heads brought into town I wou.d ke to see some. —A. I have not seen any yet.

Mr. Higgins.—We will be able to see them in Victoria.

Mr. Vienna, fish dealer, who was present, was invited to bring a steel-head, if he could procure one, for inspection by the Commission.

———

DANIEL J. MUNN, of New Westminster, a native of Prince Edward Island and a salmon canner, was duly sworn.

By Mr. Wilmot:

Q. Would you prefer to make a statement, Mr. Munn, or shall we ask you questions?—A. Well, perhaps it would be better if you would ask any questions you may desire.

Q. Well, what do you think on this offal question?—A. Well, I don't believe that it is injurious to fish, that is to the salmon; I think that the scavenger fish do away with nearly all of it.

Q. What effect do you think it has from a sanitary point of view?—A. Well, when it is deposited in deep water I don't think it has any effect at all. The only place it might be injurious is where it accumulates in large heaps and the sun possibly gets at it, and in that way it might pollute the water. It would then become offensive.

Q. It is thrown in heaps, is it not?—A. Yes, it is sent out through shoots. We all make it a point to put it in deep water if we can.

Q. Portions remain in the heaps, I suppose?—A. When put in deep water it does not. At the "Bon Accord" we don't see anything of it after it leaves the floor.

Q. Well, as to the wind-bags and the parts of the entrails attached, do not these parts rise to the surface and float down the river?—A. I have never seen it—I don't think it does—I have never seen offal float—a dead fish will.

Q. Is it sent along the shores of the river or in the sloughs?—A. A portion of it will float.

Q. Then that will be the wind-bags, &c., won't it?—A. Yes, but the offal itself does not float.

Q. Will not the wind-bags have a portion of the entrails with them?—A. Oh yes, a portion of the entrails will be attached, but that applies only to exceptional cases; I have not seen much of it.

Q. Are there many residents living along the bays or slough, settlers?—A. Yes.

Q. What effect would it have on people living along the sloughs or bays?—A. I don't think it has any effect if the water is filtered.

Q. I mean the offal in the water—if you were a settler would you like it?—A. No, I don't think I would, but I think I would take water from a deeper channel and filter it. I don't think the water from the Fraser River is fit to drink at any time unless taken from a deep source: there is so much dung, sewage, filth, &c., of all kinds thrown in, or drifts in along the banks.

Q. You think that there are more injuries to the water than offal?—A. Yes.

Mr. Munn—(continuing). I may say that to dispose of the offal in any other way than at present would be very expensive—indeed so much so that we would have to consider it, and I would not like to undertake to dispose of it either by going into an oil refinery or by taking it out to sea.

Q. Could you suggest a remedy feasible to carry out, to get rid of the offal?—A. Well, my way of looking at it is that it is not injurious to salmon. That if it is injurious to people living along the banks of the river, the municipalities might take hold of it as a sanitary measure—it is entirely a local matter, I believe, where there could be any cases of complaint, and this is why I think the municipalities should take it up instead of the Dominion Government hampering an important industry by imposing unnecessary expense.

Q. I may mention that it is a statutory enactment throughout Canada and in most countries that this offal should not be thrown into the water, and here where it is so generally done it is a question of great importance as to what remedy can be devised. Now you speak of the municipalities taking it up—one municipality might pass a law that it should not be done, while another might allow it—you must have some power that would be universal.—A. Well, I think the Dominion Government should not have this matter in hand. The Provincial Government might look into it. I know that many of the complaints are unfounded. I went to one man direct myself on the river, who raised quite a noise about the matter, and asked what he wished us to do. "Well," he said, "I would prefer to put it on my land—we have any amount of land it would benefit." "Well," I said, "if I take a scow load and put it on your land would you say nothing more about it?" "I would not allow it," he said. He knew very well that it would almost cause a pestilence because it would create lice and other vermin of all kinds and would destroy all the fruit trees in the country.

By Mr. Armstrong :

Q. Well, suppose there was an oil factory, would it be very expensive to take the offal to the factory?—A. Well, it would not be so very expensive as inconvenient—when fish are running largely, we have all we can do to look after them.

Q. Now there is an oil factory started down the river, and if the offal could be manufactured, just to pay expenses and nothing more, would it not be a good thing? If all parties would take the offal to the factory, I think they could afford to work it up?—A. Well, we would be only too happy to go into that if it is feasible, and if it will pay. I understand that the factory you speak of does not pay, nor begin to pay, It does not get rid of the offal either. They cannot dry it properly, and cannot make it fit to ship.

By Mr. Wilmot :

Q. You stated that you had not heard of persons making complaint against throwing offal into the river. I may state that the city of New Westminster has made complaint as a public body, and many persons have done so, too, from a sanitary standpoint.—A. Well, I just wish to state, if I said I heard no complaints, that I have heard complaints, but I did not think them good authority.

Q. But the city of New Westminster—ought it not to be good authority?—A. Yes ; but I think the water more hurt by the sewage going in than by the offal.

Q. If this complaint is made by the city of New Westminster, and made by the inhabitants and numerous others that it is a nuisance, &c., would it not be better for all the canners to club together, and by some means—you could erect machinery, &c., by a small pittance each—not create such an injurious nuisance. I don't think it injurious to salmon coming in, unless it lodges in places on shallow ground here and there—it is more from a sanitary standpoint that I should view it?—A. I quite agree it would be a proper thing to do, but as a cannery proprietor, I am not willing to go into any business unless I have some idea of what the expenses will be. Now, about two years ago, Mr. Begg went around amongst different canneries and asked them to subscribe about $1,000 each, in order that he could build an oil refinery ; get scows to convey the offal, &c., and he, of course, was to have the management of it. We went into the matter thoroughly with him and found that he had no experience in the world, and that he knew nothing more than we did ourselves ; so we refused giving our $1,000 each. If we saw our way clear that so many dollars a season would dispose of the offal, and advance the general good of the country, &c., we would be only too happy to go into it ; but every dollar you add to the cost of putting up our fish, makes it harder for us in competing with other canneries on the coast.

Q. But if the law was carried out the penalty would be very great and every one of the canners would be subject to this penalty, and at any time the Government could come down and say this law must be enforced. Now, would it not be better to arrange this before the penalty is exacted?—A. Well, if other canners engaged in the business can make it pay I will be very willing to go into it with others, but as regards the "Bon Accord" (Mr. Munn's cannery) it will bear heavily upon us.

Q. Where is the "Bon Accord"?—A. Four or five miles up the river. It would be adding very much to the cost of working our cannery if we had to save offal in any way; but there is another point as well—we find it very hard when the run of salmon is on to get labour to take care of the fish in the cannery. It is not like as if we had four or five months in which to do our work—it must be done inside of a month and our labour must be collected inside of that time.

By Mr. Armstrong:

Q. But, Mr. Munn, there is the law—suppose we recommend that it does not be stopped—any man can come up and complain and the law must be enforced. Now, would it not be better for the cannerymen to do something to help better this state of things?—A. Well, as far as I am concerned I don't care to go into any business I don't understand.

Q. But there is the law?—A. Well, if the law says we *must* (emphatically) move off the river—all very well.

Q. Oh, no, I didn't mean that?—A. Well, I maintain if we have to go to the cost of taking care of that offal other than we do now it is tantamount to forcing us off the river.

Mr. Wilmot.—Well, but in Washington and the United States there are penalties against the putting in of deleterious substances in rivers and streams?—A. Yes, if it is injurious to fish. They do throw offal in, in Washington, and if we have to take care of it we will be at a disadvantage with them. I agree that it would be well to take care of it if possible, but not in such a way as to put us to expense.

Mr. Higgins.—Change the law. Ask the Dominion Government to take care of the offal. I consider the Government should take care of the offal themselves. They should start oil factories, &c. They protect all kinds of industries, why should they not afford some protection to this important industry here?

Mr. Wilmot.—But as this is a matter affecting the Province of British Columbia, why should not the Provincial Government look after this?

Mr. Higgins.—Oh, no; the Dominion Government takes care of the fisheries, and if the offal is deleterious to health and is destroying rivers as places of residence, I think the Government should step forward and do something to prevent the bad consequences. I think you should not ask the cannerymen to do more than to deliver the offal at the oil factory.

Mr. Munn.—Beyond all that, would it not be as well to have a medical officer inspect the river and have it settled whether this offal is really deleterious?

By Mr. Wilmot:

Q. Cod fishermen on the coast of Norway, England, Sweden, and, I think, in the United States, have been the principal parties in asking that offal should not be thrown in because it is deleterious to throw fish in on the coast on account of it driving fish away from their haunts nearer shore. Now, here, I don't think it is deleterious to fish coming up, but as a sanitary matter I should think it was decidedly so.—A. Well, I don't think it is as much injury as the sewage thrown in and the great numbers of dead fish that die up the river. The offal is a small matter compared with them. Then it might even be cheaper, if the offal law is to be enforced, to give the farmers better water—bring it down from above to them.

Q. Is it not a fact that the report that the habit of catching salmon at Point Roberts on the United States side and throwing large quantities of them away was harmful to the Fraser River and has been complained of by cannerymen as injurious to your river?—A. I have not heard of it.

Q. Because if this is injurious by being thrown out in the Straits, how much more is it injurious in the river itself when they are thrown in?—A. Well, I don't think so—I didn't take any account of that.

Q. Are not large numbers of salmon thrown away when you cannot put them up? A. Not from our cannery, except once, when we threw away 300 salmon one Sunday night a year ago.

Q. In catching the quinnat, what do you do with the white salmon during the season?—A. We don't use them—we give them to the fishermen and they use them as best they can.

Q. Will they eat them instead of the red salmon?—A. Certainly; because they get them for nothing—they are equally as good.

Q. What proportion of white and red might there be?—A. I don't know exactly. In August there are more white than in early spring.

Q. And yet they are caught and not used?—A. The Indians use them for their own purposes; they are not wasted.

Q. Are they not frequently taken out of the net and thrown away?—A. It may be done to some extent—I have never seen it.

Q. When you carry on your fishing at the latter end of the season, do you not catch humpbacks as well?—A. Yes.

Q. What do you do with them?—A. They are thrown away.

Q. Then they become offal as well?—A. I suppose so.

Q. Are they very numerous?—A. Yes; we catch few sockeyes when the humpbacks are coming in.

Q. What about the cohoes; they come in later than the humpbacks, don't they?—A. They come in later. They are caught by fishermen, but we have no use for them in the cannery.

Q. What are done with the cohoes caught?—A. They are canned, but of late years we don't fish for cohoes.

Q. Are they fished for by any other persons?—A. By some for the fish markets.

Q. Are all consumed? Not thrown away?—A. They are not thrown away to any extent.

Q. If steel-heads are caught in nets while fishing for other fish, what is done with them?—A. They are canned with the other fish.

Q. Then the most valuable fish for canning is the sockeye?—A. Yes; we depend absolutely on the sockeye.

Q. With regard to the propagation of salmon for this river, do you think it best to breed only sockeyes and not any other kinds?—A. Well, I believe more information should be gained of the natural spawning grounds in the country before they should be artificially hatched, or anything of that kind. We don't know enough about the natural history of the salmon in the province. We ought to breed spring salmon because that is the best salmon.

Q. In connection with spring salmon are some mixed red and white?—A. Yes; you find them streaky.

Q. Are they a distinct species, do you think?—A. Well, I don't know. They seem just as good one with another, red or white, the only difference is the white one does not suit the taste of consumers. I would prefer seeing spring salmon bred.

Q. Has artificial breeding been beneficial to the river, do you think?—A. Well, I don't think it is yet beyond the experimental stage.

Q. As far as it is gone, what do you think?—A. I don't think we have enough information to say.

Q. How do you account for the big runs in some years?—A. Up to '89 and '90 there were always good years, except '86. I should say that the reason the run was so great last year was because the spawning conditions were much more favourable when the eggs were deposited on the natural grounds, as they were unfavourable in '86.

Q. '89, '90 and '91 have been large runs. Was it usual in former years to see consecutive years large?—A. Well, last year was better than any off year. With the hatchery as an experiment, I can understand that the big run of last year was owing to favourable conditions when spawn was placed in the rivers.

By Mr. Armstrong:

Q. I suppose after this year's run you will be able to tell better?—A. Yes; I think so.

Q. What is the average weight of the sockeye you can?—A. I should judge about six pounds.

Q. Is it not a fact that all reports make the average nearer eight pounds?—A. I am not a judge of the weight of fish; I only know how many fish it takes to the case.

Q. What is the usual run of cans to a fish?—A. Well, in poor years four cans to a fish—in heavy years the fish are always smaller than in poor ones.

Q. Then one-third of a six-pound fish is offal?—A. Somewhere about that.

Q. Then if the average of salmon were eight pounds you would get five cans?—A. Yes; about that.

Q. Then the offal would be three pounds?—A. Yes; it is a matter of calculation—the bigger the fish the less the amount of offal.

Q. What would be the fair average quantity of cases put up at a cannery that would be remunerative?—A. Well, these are things we cannot tell much about; it all depends upon the market.

Q. Should a cannery commence operations or begin to work with machinery for less than 15,000 cases?—A. I think everybody should go into the cannery business if they want to.

By Mr. Wilmot:

Q. Well, suppose a man with a capacity of 20,000 cases, and he gets the same number of licenses as one who packs 10,000 cases, would it be just?—A. No; a man's pack should be consulted.

Q. Do you think 15,000 cases a fair number for twenty licenses?—A. I don't think any such arrangement should be made at all. This twenty license system is not a good one in the way it has been worked. It all depends.

Q. What do you say to unlimited licenses, both to canners and fishermen?—A. That is to say, that any person could get one or as many as they wish?

By Mr. Higgins:

Q. If you want ten as an individual you should get it? How would you work it?—A. Well, labour regulates all that, and then it would be putting the river on the same basis as any other enterprise. A cannery should have a number of licenses—not necessarily established—but as long as he can get as many as he requires.

Q. In the case of a cannery which shut down for the season, what then?—A. Well, they would not need any licenses. If there is an established law no one will take out more licenses than they require.

By Mr. Wilmot:

Q. Then a cannery should get a minimum number?—A. Yes; if it is necessary to establish a fixed number of any kind, but my principle is that a cannery or individual should get a license, or any number of licenses upon application and payment of the license fee.

Q. Then one canneryman could go and say, I want one hundred licenses; another says, I want ten—then the man with ten would have to rely upon the ordinary fishermen?—A. Yes; if you have a fixed number, but it depends upon the law you have—if you say there must be a limit to the number of boats on the river, there should be a minimum number, but I would do away with any fixed number on the river to fishermen or canners.

Q. Then the Government would have to put them up to auction?—A. No; not necessarily.

By Mr. Higgins:

Q. Well, I think this would pass the whole business into a monopoly.—A. Why, the fishermen can make it just as great a monopoly.

Q. Not unless they had capital?—A. Well, do you think canners have absolute control of labour to run an unlimited number of boats? It is just this way: the canners prefer having good contract fishermen to any other system so long as we can feel secure ourselves.

By Mr. Wilmot:

Q. Very true, but you could dictate to the settler coming in if you had all the boats?—A. But where are we to get our labour for all these boats?

Q. But persons coming out to British Columbia from other countries, they cannot get licenses?—A. But if everybody could get licenses how would we have a monopoly? Just following out this principle, suppose the canners were given a limited number and you gave licenses to everyone who came into the country, would not the fishermen have a monopoly? You are working on a wrong basis if you imagine a monopoly can be established by allowing free licenses on the river—let every fisherman come in and get a license and canners get all the licenses they want.

Q. Well, suppose canners were fixed at a minimum number of licenses, say fifteen or twenty boats the maximum number of boats a canner could get, leaving it free for all canners wanting to go into the business to get some, and one fisherman to get one license each. The canners would always have enough to run their establishments, and if they wanted more fish they could buy from the fishermen. Would not this equalize matters?—A. That is a practical proposition; I cannot see though what difference it would make to my idea. I am reasoning for having a fixed number for each cannery, as our Indian labour must be given employment. They are the best kind of labour we can get. They come and bring their families with them, and these latter—their women and children—find employment inside the cannery. We require a certain number of boats each day, and we send them out. It is our loss if they do not bring in enough fish to pay. But at present with the limitation in the number of licenses, it prevents people coming in because they cannot get licenses. For instance, Bob Gardiner, a white man, fishing in 1886–87–88, he brought his family with him, and there was no limitation in the number of licenses in 1888, and it was not necessary to take out a license. In no particular name he fished on one of our licenses. His name did not appear on the books at the inspector's office, and next year he was refused a license because his name did not appear. Since then we have given some of his boys a boat to fish. When he found he could not get a license, he did not come down next year, and thus you prevent labour from coming. We require a certain number of licenses to encourage as much labour to come as possible, for of what value are green fish unless you can use them and have labour to put them up with?

Q. But would it not be better to induce white men instead of Indians?—A. Well, there would be room for all.

By Mr. Armstrong:

Q. Our Indians are different to yours in the east. They work all the year round and spend their money in the country.—A. Now, there is another matter. We want this labour to take the place of Chinamen, but if the limitation continues how are we to do unless by employing Chinamen and other cheap labour? Now as to giving licenses to all, it does not matter as long as we can get a number of licenses and are sure of that.

By Mr. Higgins:

Q. But if we gave you 100 licenses, we place fishermen at your mercy?—A. Oh, no; but when you give a limited number on the river it hurts all.

Q. Well, I believe the time is coming when the number of canneries on the Fraser should be limited?—A. Well, then, that will be a monopoly.

Q. But we must not place any one class at the mercy of the other?

By Mr. Wilmot:

Q. Is it a fact that a cannery gets twenty, thirty or forty licenses, as the case may be, and then hires licenses out, and when fish are worth 20 cents each, the fishermen gives his fish and gets but 10 cents each?—A. It is a practice to fish on shares; we never sold our licenses; we always did it on shares.

Q. Then that man is hampered by getting 10 cents for his fish, for if he got a license himself he would get 20 cents?—A. Yes; of course it depends. We work on shares and make the arrangement with the men—now labour is scarce, we put two men to a boat and allow them 10 cents for each fish, although we prefer to buy our fish, and then they (the fishermen) are responsible for their own boat and net.

By Mr. Armstrong:

Q. You give them a boat and net when they fish on shares—how much do these cost?—A. Oh, $140 for a boat and net: but as long as good labour is encouraged to come into the country we have no cause of complaint, but the way things have been working it has been injurious in every way.

By Mr. Wilmot:

Q. What would be a fair average catch of fish for a boat during the last three seasons?—A. It varies—sometimes 3,000 or 4,000.

Q. Statements were made yesterday that 3,000 and 4,000 were caught and delivered to the canneries?—A. Yes; that is correct.

Q. Then 700 of those salmon would equip a man, at 20 cents each?—A. Yes.

Q. And he would have then the difference between that, namely, 2,300 fish as his own individual profit?—A. Well, I don't see why the cannerymen should not go into a little speculation if they liked. We always make the best bargain we can; but there is one thing you must not overlook, namely, that 700 fish does not represent the cost of the fishing outfit, boat and license, net, waste, loss, &c. You must also take into consideration that these nets are snagged once, twice, or three times a year; and we have to have a man to look after these nets as well.

By Mr. Armstrong:

Q. Is 20 cents the average price for fish?—A. No, sir; it is not—it varies.

Q. Well, what is an average price?—A. I have bought some at 20 cents, some at 15, and some at 10 cents—it changes.

Q. The average price would not be 15 cents, then?—A. No; not 15.

By Mr. Wilmot:

Q. What are your views in regard to the weekly close season?—A. I think our close season as at present is quite sufficient and I would strongly protest against any change.

Q. What is the object of the weekly close season?—A. The object was to allow fish to pass up the river.

Q. Not for keeping the Sabbath?—A. I suppose not—there is a double object though—I don't expect people to work on Sunday if they can avoid it.

Q. Canners asked that the close season be changed by changing from Monday morning back to 6 o'clock Sunday night?—A. Just let me explain. As far as I know anything about it from the time I have been on the river from when I came here first up to '89-90, there was 30 hours close time, from Saturday noon to Sunday evening at 6 o'clock. I have never asked nor desired any change from that. I may tell you that up to the two years ago when this change was made from Saturday evening to Monday morning at 6 o'clock there was more real work on Sunday than any time else, and when I told you we threw away 300 fish at the "Bon Accord" it was on account of asking our men to work on Sunday morning, and consequently it always was very difficult to get our hands out to work on Sunday. Why I object to extending the time to midnight Sunday would be that the guardians could not see if any fishing was going on. I believe the law should be fixed so all could see if it was enforced. They could see that no one went out before 6 p.m., but could not see if any went out at 12 o'clock.

Q. Well, if Sunday is worthy of being a holiday, and having work prevented on that day—query, why whole day or one-third?—A. Well, our season is only five or six weeks; we have to guarantee so much work to our hands—so many days' work, their food and their taxes.

Q. Yes; but you entered into a speculation in establishing a cannery with all these things known?—A. Yes: but we feel we are having a hard time to compete with other parts of the coast. If we are pushed too hard we will have to leave the business. Alaska and the Columbia River are hard to compete with, and we should be treated liberally, not in such a little trifling way as to bother us with a few hours on Sunday.

Q. Oh, I don't think these matters are such trifles, they affect the whole community?—A. I would only say that when you have to depend upon the short time—four or five weeks—you cannot stop at such little trifles. Sunday work is often necessary, but we wish to avoid it as much as possible.

Q. Then what you say is the present law is all right?—A. I have the laws of the adjoining States here respecting the close seasons. I see the State of Washington has a weekly close time from 6 p.m., Saturday, to 6 p.m., Monday.

Mr. Higgins.—What is the weekly close time in Oregon?

Mr. Munn.—(Reading from his copy) Between 6 p.m. on each and every Saturday, and 6 o'clock in the evening of the following Monday.

Mr. Higgins.—What is the date of that statute you have?

Mr. Munn.—Eleventh of February, 1891.

By Mr. Wilmot:

Q. I would state that we have evidence here to show that the canners themselves asked that the close season should commence at 6 o'clock Saturday morning and continue until 6 p.m., Sunday.—A. Yes; but we considered that if the Government was bound to have six hours more than usual, we should have them on Saturday morning instead of putting them on Sunday night.

Q. What do you think of an annual close season?—A. I think the Fraser River is amply protected now; I would not advocate any annual close season.

Q. The State of California has a law prohibiting the taking of salmon from the 1st of August to the 1st of November. (Mr. Wilmot here read extracts from departmental file, No. 8478, in reference to this matter.)

Q. When do the humpbacks begin to enter the river?—A. In September, though it is more difficult to go up the river in low water than when the rocks are covered. But there is a good deal of difference between the regulations on the Fraser River and those on the Columbia. On the Fraser River fishing is limited to tidal water; on the other side, I believe, they fish very many miles above tidal water on the Columbia. On this side—the Fraser River—we have no pound-nets, traps, nor fish-wheels; these have never been used here, since 1876 at least, and all are used on the other side. Then we have had a weekly close time of thirty and thirty-six hours since 1876, and over there it was never enforced until two years ago. Now these are three of the most important things, and which I consider will protect the river against any possible over-fishing.

Q. But why do the Columbia people say their river has been depleted by over-fishing?—A. Well, they have never had the benefit of our laws. Then they never kept one-third of the river open.

Q. Is it kept so here?—A. Yes; I believe so always. Then there is the cost of licenses; they don't have any charge at all. Then we have small meshed nets; I cannot find anything over there regulating this matter.

Q. Is it not better for the fishermen to have small meshed nets?—A. Yes; but there is a possibility of burdening us down with too much law. We should be treated so as to compete successfully with the Columbia River.

Mr. Wilmot.—But I don't think you are being overburdened. I think the canners have been able to make the canning business a most profitable one.

Mr. Armstrong.—Yes; I think so too.

The Commissioners adjourned at 12.30 p.m., to meet at 2 p.m.

The Commission reassembled at 2 p.m. at the Court-house, New Westminster, the full board being in attendance.

Mr. MUNN, on being recalled :—

Mr. WILMOT.—Mr. Munn, you are still under examination. Mr. Sheriff Armstrong is desirous of asking you a few questions.

By Mr. Armstrong :

Q. Will you kindly tell us what it costs you to put up a case of salmon, that is the average cost?—A. Well, if that question should and must be answered all right—but I don't wish to divulge my business to the world. I don't think I should be asked that question.

Q. Well, it has been stated here that you can well afford to put up a cannery at a cost of $5,000, and make $20,000 by getting more licenses. Now, how are we to know that; how are we to get at the facts if we do not get authentic figures as to cost, &c., from you?—A. Well, if they did make a big strike out of the twenty licenses, it is certainly by the most favourable circumstances. It is only once to my knowledge that a great strike has been made and made with safety.

Q. Now, there were canneries put up this year; was not it in order to earn those twenty licenses?—A. Well, partly, and partly because canners had found that their brand was worth more than their twenty licenses would supply.

Q. Well, if they make that many, why decline to give us the figures?—A. Well, that is the only year. I will give information to you in this way: If the market continues as at present——

Q. But give us the average for the time you were in the business?—Well, the average cost is about $3.75 the case.

Q. What does it cost to ship them to England, on the average?—Well, I could not tell; I could not give you an average; we have damaged cargoes, &c.

Q. Well, but your average?—A. I have not figured it up.

Q. Well, but could you not let us know?—A. Well, I don't want to tell the world what I am doing. I will tell you this: that for the last 18 months the best salmon in England has not been above 18 shillings.

Q. Well, is $3.75 a fair cost for getting good returns?—A. Well, I would not like to say. I don't think it costs much below that and other expenses will bring the cost up to $4.50, delivered in England. Then there are reclamations that come back on us if fish are not in good condition, &c. Certainly I should say that this extra expense is not less than 75 cents a case.

By Mr. Higgins :

Q. Have you any clear idea what canners intend to do with the offal this year?—A. I don't know of any arrangement. As far as I am concerned I think, though the "Bon Accord" needs to be renewed, I shall not go in it to expend one single dollar upon the place until the offal question is settled, because if we are obliged to haul offal we will shut down and go down amongst the others below the city. We will regret this, because the advantages at the "Bon Accord" are excellent, with an abundant supply of good fresh water, &c., and naturally I feel anxious to know how we are to be treated; and if the offal law is going to be enforced, I feel it would be foolish for us to rebuild.

Mr. WILMOT.—Since hearing you this morning I have noticed an article in one of your papers in connection with the question of fish offal—samples which have been sent down to Ontario from British Columbia and analysed by Professor James of the Ontario Department of Agriculture. I will just read it.

Mr. Wilmot proceeded to read extracts from the article which, in the Victoria *Colonist* of 20th February, 1892, appeared as follows :—

FISH AS A FERTILIZER.

THE ONTARIO DEPARTMENT OF AGRICULTURE REPORT UPON BRITISH COLUMBIA SAMPLES.—AN INDUSTRY WHOSE DEVELOPMENT MEANS MUCH FOR THIS PROVINCE.

In the annual report of the Department of Agriculture of the Province of Ontario for 1891, the following analysis appears from the Chemical Laboratory of the Ontario Agricultural College, Guelph, by C. C. James, Professor of Chemistry.

Four samples of fish were brought east from British Columbia, by Mr. Alexander Begg, for the purpose of ascertaining the comparative value of each kind. The samples were placed in tin cases, and soldered. They reached Toronto in March, 1891. The cases were numbered 1, 2, 3 and 4.

No. 1 contained head and entrails of codfish.

No. 2 contained a whole dogfish.

No. 3 contained divided salmon, as cannery refuse.

No. 4 contained whole herrings.

Professor James reports that taken from the cases as received, they consisted of the following :—

	1	2	3	4
Water	70·11	77·17	77·04	77·50
Dry matter	29·89	22·83	22·96	22·50

By thoroughly drying, as far as was possible, the amount of water was reduced to about four per cent, so that in drying the material was reduced to about one-fourth of its original weight. The dried material gave the following by analysis :—

	1	2	3	4
Water	5·91	5·76	2·08	7·48
Ash	17·62	18·48	13·54	10·15
Organic matter	76·47	75·76	84·38	82·37
	100·00	100·00	100·00	100·00
Oil or fat	27·21	25·55	66·95	18·29
Nitrogen	6·32	7·80	5·55	7·96
Phosphoric acid	5·70	6·67	4·79	2·72
Potash	0·36	0·51	0·58	0·21

If the materials were deprived of their oil or fat and manufactured into a dried well powdered fertilizer, without the admixture of anything foreign or additional, it would have about the following composition, as far as its most valuable fertilizing constituents are concerned :—

	1	2	3	4
Water	10·00	10·00	8·00	10·00
Nitrogen	8·50	10·00	12·00	0·50
Phosphoric acid	7·50	8·50	11·00	3·50
Potash	·50	·50	1·00	·30

An analysis by Arendt of Norwegian fish scrap gave of—

Moisture	17 per cent.
Nitrogen	10½ "
Phosphoric acid	4 "
Organic matter	72 "
Ashes	12 "

Other samples have shown more phosphoric acid (13 to 15 per cent) and less nitrogen (8½ to 9 per cent). Some of them were scrap that had been steamed to remove the oil.

It will thus be seen that a most excellent fertilizer can be produced from any one or all of the fish refuse sent here for analysis, by (*a*) extracting the fat or oil, (*b*) removing the excess of moisture by drying, (*c*) thoroughly pulverizing. The fertilizer thus produced would be rich in nitrogen and phosphoric acid, but would be deficient in potash. To make a complete fertilizer of it an addition of sulphate of potash might be made. Without the complete extraction of oil and salt and effective drying, a finely pulverized guano cannot be obtained.

Norwegian fish potash guano thus produced contains as follows, according to Dr. Griffith's "Artificial Manures":—

	Cod and Potash.	Herring and Potash.
Nitrogen equal to ammonia	7·00	7·05
Phosphates (fish bone)	20·00	8·00
Potash (sulphate)	15·00	15·00
Magnesia	10·00	10·00
Sundry matter	1·00	1·00
Water	5·00	5·00

"These fish guanos are shipped from Jansen's works in the Lofoden Islands (Norway), and conveyed to England," and, according to the same authority, English fish guanos (without potash) sell from £5 10s. to £6 per ton. American fish and potash sells at from $25 to $35 per ton. Potash and phosphates are added to the fish refuse, and they contain from 2½ to 4½ per cent of nitrogen; from 3 to 13 per cent of phosphoric acid, and from 3 to 6 per cent of potash. * * * * *

Prof. Storer, of the Agricultural Department, of Harvard, in his "Agriculture in some of its Relations to Chemistry," says: "The American fish guano is a product obtained incidentally in the manufacture of oil from a coarser sort of herring called the menhaden or pogy." Mr. Watt, of Aberdeen, in the report of the transactions of the Highland Agricultural Society of Scotland, for 1886, page 203, says: "The oil from the herring is serviceable for a great many industrial purposes—for the preparation of leather, in the treatment of vegetable fibres prior to spinning, in the manufacture of soap (which is the great use to which the analogous menhaden oil is turned in America), and for lubrication and burning."

Professor James says in relation to the commercial value of the material, that from one ton of undried refuse and herrings there should be obtained at least 100 pounds of oil, and perhaps much more; and from 400 to 500 pounds of fish guano or fertilizer—the latter worth between $20 and $30 per ton, or the ton of raw fresh material should produce oil and fertilizer worth at least $15, and perhaps $20. On this question of value of production, Mr. Watt speaks as follows: "From 10 tons of average herrings in the fishing season there would be obtained 1½ tons of oil perhaps, and two tons of fish guano. If, say, 300 gallons were obtained, which is a moderate estimate, and the price 2 shillings a gallon, which might probably be realized, the oil of 10 tons of fish would produce £30. Then there would be two tons of guano at £10 per ton. Thus, if estimates are at all trustworthy, something like £5 a ton might be realized through the manipulation of herrings as a raw material of oil and manure." The above value of £5 is, perhaps, too high for this country, but making allowance for that, our valuation of $15 to $20 per ton will not be much astray.

Conclusion—From the consideration of the whole question, I am of the opinion that the manufacture of the refuse into fertilizer is strongly to be recommended because:—

1st. It will thus utilize a by-product that otherwise is a total loss.

2nd. It will prevent the waters from being contaminated.

3rd. Its proper management must tend towards a more healthful surrounding.

4th. Its return to the soils of the farm will partly offset the waste of our cities by sewerage carried to the lakes and rivers.

5th. If properly handled it will pay well.

From the great importance of this question to the health of the community, the welfare of the fishing industry, and the progress of agriculture, I have endeavoured to reply at this length.

[Professor James is entitled to the best thanks of the people of British Columbia for his able and exhaustive report on a subject of so much interest to the province, as well as to the rest of the Dominion. On inquiry it is found that the Minister of Agriculture for Ontario had the analysis made at the Agricultural College free of any charge. It is further learned that Mr. Begg procured the samples of fish and took them to Toronto at his own expense.]

Mr. Munn.—That gentleman undertakes to say that it would pay well. We should only be too happy to have that man's capital interested in the business. Besides that, if it is a contamination to the water, &c., if it is well that it should be used, why not go up the river and take the salmon that are found dead? There are a great many of them and I think there would be more money in it than there would be in taking the offal from the canneries. I would suggest this. We are anxious to have the regulations established on some permanent basis. From year to year we are in jeopardy—we don't know the number of licenses we will get, five, ten, or forty. It was varied in '89—some had forty, some eighteen, and so on according to the previous pack—the number was different. Last year, for instance, we had to order our material in October and the regulations for fishing were adopted in May, and, that I contend, was not giving our industry fair play, and the sooner it is settled the better.

By Mr. Armstrong:

Q. Do you think all canneries should have the same number of licenses?—A. I don't believe in establishing any number, either for the canneries or for individuals.

Q. But if an establishment were made should all have the same number?—A. No; that would not be equity—I think not.

Q. Then the person building the most extensive establishment should get the most?—A. Yes, I think a man putting up a big establishment would be in a better position to put up a better article.

By Mr. Wilmot:

Q. Then a big cannery puts up a better article than a small one?—A. No, not necessarily, but it is a well-known fact that a person doing an immense business has more opportunities for making the article he is putting up a first-class article, and that his goods are well thought of in the market.

Q. Well, Mr. Munn, I think we have questioned you quite at length now—is there anything further you would wish to present to us?—A. I can think of nothing further just at present.

P. McTIERNAN, Indian Agent, of New Westminster, a resident of British Columbia for thirty-four years, was duly sworn.

Mr. McTiernan.—The reason of my coming here before you is that I want to make representations on behalf of the Indians of this country to the effect that they are not fairly treated. There are about 3,000 or 3,500 Indians fishing on the Fraser River and they have only forty licenses. Now, they bitterly complain about this, and I come before your Commission to see that you rectify this in some manner. They should get at least 100 licenses.

By Mr. Wilmot:

Q. If the licenses are unlimited and all fishermen and British subject get licenses, they would come under the same rule as others?—A. But there are only forty licenses granted at present; I have nothing more to say.

By Mr. Higgins:

Q. Well, but are they prohibited from fishing?—A. Oh, no; they fish a day's work—the forty can sell fish to the canneries, while the others are obliged to work for the canneries at per day's pay. Some Indians make $600 or $800 a year and perhaps some $1,000 a year—that is those who have licenses, and those who have not come home with purely nothing, and really these Indians are the bone and sinew of the country and they spend their money in the country too.

By Mr. Wilmot:

Q. They are preferable to Chinamen, are they not?—A. Ugh—(laughter)—there is not the slightest comparison.

By Mr. Higgins:

Q. How is it they make more money than those who do not hold licenses?—A. Because they sell their fish for 10 cents, or whatever the price may be, and the men who work by the day get $1.25 or $1.50 only. Now, I could tell you that at Langley where they are a numerous and fine able-bodied lot of men, there is not one license, and the few licenses that are given are given to Indians of Coquitlam at Kitse.

By Mr. Wilmot:

I might read for your information that this is the present statute:—

"Fishing by means of nets or other apparatus without leases or licenses from the Minister of Marine and Fisheries, is prohibited in all waters of the Province of British Columbia.

"Provided always that Indians shall at all times have liberty to fish for the purpose of providing food for themselves, but not for sale, barter, or traffic, by any means other than drift nets or spearing."

Now this means if they ask for licenses they will be placed on the same basis as white men, but if fishing at all times for themselves they must not enter into competition with the white men. You see the intention is that the Indians being the first people of the country, they were given the privilege of fishing for their own use, but if they wished to get into trade and become a regular fisherman, they must take out licenses.

By Mr. Armstrong:

Q. How many out of the 3,000 Indians would be able to provide themselves with a boat and net?—A. I could not say—that would be left to themselves. I think at least one hundred on the Fraser River would so provide themselves.

By Mr. Wilmot:

Q. In all the fishery laws of the Dominion the Indian is given priority over the white man, that is an Indian may fish without a license as long as he does not trade or barter?—A. But that is just what the Indian wants—he wants licenses so as to sell.

Q. But the number being limited the Indians only get forty, but if the number was extended to all, everybody would get it?—A. But you see the Indians are entitled before any other parties, and they only get forty while the cannerymen get a large number. I tell you, gentlemen, it is a very hard matter, and I hope something can be done to improve it. Thank you, gentlemen, that is all I have to say. I simply came here to speak for the Indians.

GEORGE HOLLIDAY, a native of Scotland, now residing in New Westminster and living in British Columbia since 1858, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, we shall be obliged if you will state concisely what you wish to say?—A. Well, gentlemen, I have very little to say except that we, as fishermen of British Columbia, would like to have an even show with the cannerymen. They have had the advantage since the limit was placed upon the number of licenses. Some few years ago there were 500 licenses issued. The canners got 350 and the fishermen got 150—that is ostensibly they got 150, but I beg to differ with that statement about their getting 150—the freezers, the shippers and the market-men all had to come out of that, which is something like thirty or forty—and the Indians too, they had to come out of it and whom I don't consider legitimate fishermen of the river at all. The Indians never before took out more than three or four or five or six licenses, as can be seen from the returns—they came down here and fished for the canneries, and now as soon as ever a limit was put on they crowd in to get these licenses, and as the Indian Agent has just said they get forty, and these forty are almost equivalent to giving forty more licenses to the canneries, because very few Indians—one in ten—have their own boats and nets. The canners pay the license fee and the Indian goes and fishes for the cannery for whatever they like to pay him—so this is just like giving them to the canneries. If you deduct these we have very few left and the canners then with plenty of licenses have command of the river. Now, all we want is to take the monopoly from the canners and give us a fair shake with them and so we can get fair prices for our fish. Last year we got fair prices because we had some little trouble with them. This thing about licenses—there has never been any trouble until the limit was put on. There is a great number of men here who used to fish for the canneries. They all want licenses now since the limit has been put on. Our great trouble is with the canneries and we have complained because they can close us down at any time.

Q. Then your view of the matter is that these forty licenses, stated as being obtained by Indians, are really the property of the canneries?—A. Almost wholly the property of the canners because they are the men who go to the office and pay for these men's licenses, and of course you know when they pay for the license they will see that terms are made to get the money back.

Q. Then the canneries have complete control?—A. Of course; people have to fish for the canneries, there is no doubt of it the canners give them the best they can, but the canners every year meet and have an understanding, and they bind themselves not to give over a certain price for the fish, and of course they have command of the river, seeing they have almost all the licenses, as you can see by taking seventy from the whole number. On my license last year there was a notice that no more than 500 would be issued—now, there were more issued.

Q. To whom?—A. To these new canneries. Not one put up a can but they got licenses. This all hurts the fishermen and the river.

Q. Then it is an actual fact that the new canneries did not perform work in them?—A. Well, I cannot say from my own knowledge, but I never heard of one putting up one can. They may have done, it is more than I ever heard of; in fact I have always understood they were not in working condition.

By Mr. Armstrong:

Q. What you heard is no evidence?—A. Well, of my own knowledge I know that if they had been working I would have known it.

By Mr. Wilmot:

Q. Why do you say an Indian should not have a license?—A. I do not say he should not have a license, but if he cannot pay for it it is equivalent to giving it to the canneries.

Q. But if it is given to all?—A. Oh, well, if to all why give to the Indian too; he has as much right.

Q. How about transient men?—A. Well, I understood the limit was put on to keep this floating population away.

Q. But some do get licenses, don't they?—A. No; I don't think so. I only know of one, and he could hardly be called that—he used to live here—he is gone away.

Q. But one of the chief complaints is that Greeks and Italians, and other foreigners get licenses?—A. Well, I have not heard of it.

By Mr. Armstrong:

Q. But, would not these Indians be liable to sell their licenses to the canneries?—A. Well, I don't see it in that way; a man cannot sell a thing that he has not. The cannerymen go and pay for them; it is done through the office.

By Mr. Higgins:

Q. Do they get them in the names of certain men, or in their names?—A. In Indian names, and the canners hold the licenses.

Q. Then you think it a fraudulent transaction to get licenses in another's name?—A. Certainly; there is fraud in it, but the Indian is interested in it and has got to fish.

By Mr. Armstrong:

Q. Do you think every British subject ought to have a license who applies for it?—A. No; I don't think so.

By Mr. Wilmot:

Q. Why?—A. Because there would not be room on the river.

Q. Well, but would not those who found it unprofitable step out?—A. True; but one has to make gear, &c.

Q. How would you limit the matter?—A. Put the licenses high on outsiders; $50 or $100, and then they will not come in.

Q. What do you think of the offal that is put in the river?—A. I believe offal has more or less evil effects on the river. It contaminates the water, and keeps fish more or less from coming up the river. I know that even the most voracious fish—the dog-fish—if you come to put that on the fishing grounds you will drive your fish away. Salmon are a much more delicate fish, and lives in fresh water on suction, and it must find this offal bad; still at the same time it may help the salmon. It collects the small fish in great numbers, chub, perch, &c. They collect in great numbers at the shoots where the offal comes in, and the Chinamen are able to catch them in great numbers. Everyone knows that this offal fish is bad for the salmon ova on the spawning beds, and if great numbers of these are destroyed it must help the spawning of the salmon.

Q. Are the young fish that eat up this offal accustomed to go up on the spawning beds; do you think this customary?—A. I think they do go up to the spawning beds; it is not so far to the Harrison River, which is a great spawning bed.

Q. What size are these small fish?—A. Two or three inches up to twelve or fourteen.

Q. What effect, from a sanitary point of view, do you think the offal has?—A. I think it is bad in summer time when large quantities are in the river.

Q. Have you had any experience of the bad effects of offal getting into nets at the mouth of the river?—A. No.

Q. Do you think it is injurious to fish entering at the mouth of the river?—A. No; I don't know.

Q. But voracious fish like dog-fish, pike, &c., would eat it largely, but salmon, you think, it would affect?—A. Yes; I think so. They are more delicate altogether.

Q. Are you aware salmon invariably enter rivers with purer water than other fish—A. Well, so far as my experience goes in regard to fish, we always consider the

salmon come back to its own rivers, so much so, that in Scotland we can tell to which river the salmon belonged. These fish when in the wrong river turn and go out again.

Q. Then the inference to be drawn from your statement is that if the Fraser River is polluted with too much offal it will prevent fish to a certain extent from coming in the river?—A. I have thought so, but there are such large quantities of fish coming in one cannot tell. In latter years there has been a run of sockeyes coming in after what is called the sockeye run is over—between the spring salmon run and the cohoes. You can tell the fish—they should have been on the spawning grounds from their appearance. Twelve or thirteen years ago I do not remember catching any of these fish, now we do.

Q. What do you think of the close season?—A. I think it quite necessary, so far as the weekly close time goes.

Q. What do you think of an annual close season?—A. I don't think it at all necessary on this river, because fish are going up pretty nearly the whole year, and as long as they are going up you are not interfering with the spawning grounds whatever.

Q. What depth of net do you fish with?—A. Sometimes forty, fifty, and sixty meshes, according to the places where I am fishing.

Q. Do you fish at the mouth of the river?—A. Largely, but I fish all over.

Q. Why at the mouth of the river?—A. Because fish come there first and have all to pass me before they get up to any other persons—that would be quite an object.

Q. Do you think too much fishing at the mouth of the river would have a tendency to scatter the fish?—A. It might, but there are so many little sloughs when the tide comes in, that plenty can get up.

Q. But if all were filled with nets?—A. But they can't do that—they are full of snags and you could not put the nets there—stationary nets might do it, but we are not allowed their use.

By Mr. Higgins:

Q. You think to a certain extent offal is injurious to fish?—A. Well, I don't know—in some ways it helps them and in some ways it is injurious.

Q. In what way does it help them?—A. Because it gives a chance for Chinamen to destroy a lot of these little fish that otherwise would do harm to the spawning beds.

Q. Now, if this offal is injurious to the fish by contaminating the water, &c., what are we to say of the dead and dying fish that come down in such large numbers?—A. Oh, well, I don't know.

Q. Have you ever been up the river?—A. Well, Mr. Higgins, I have been up and down since 1858. I have seen lots of dead fish at Yale but never so many as they talk about, except the humpbacks in October. I have seen them going up to spawn so thick that you would really think you could walk across on their backs they were wedged in so thick. In the struggle to get up and in their more or less exhausted condition of course many died, but this thing of all the fish dying that go up the river before they spawn is all rot.

Q. Did you know the late Inspector of Fisheries, Mr. Thomas Mowat?—A. Yes, I knew him.

Q. Well, if Mr. Mowat stated twenty-five per cent of the fish lived to get back, or if he said only five per cent lived to get back, would it be correct?—A. No, sir, I don't believe him. I have been fishing longer than Mr. Mowat. I am a practical man and I don't believe it.

(Mr. Higgins then read extracts from a letter from Mr. Mowat to Judge Swan, in which Mr. Mowat stated his belief that not more than twenty-five per cent of the fish entering the river for spawning purposes and which were allowed to spawn, lived to get back to sea.)

By Mr. Wilmot:

Q. Have you ever seen many fish here floating down the river dead?—A. Oh, in fishing you will often get a number, that is towards the latter part of the run you will

get odd ones, but very few sockeyes. There is a fish coming in—the "dog-salmon or quallah"—at first it is very bright but after a while it gets covered with fungus and look as if they were rotten. These and the humpbacks are worse-looking coming down the river. They get in the back of the net and when you pull it in you think the fish are dead, but they are alive though looking rotten. Sockeyes though seldom go back unless wounded or hurt.

Q. But have you ever seen good, sound salmon in June, July, or August floating down dead?—A. I have seen an odd one that has dropped out of the net—a heavy one will occasionally drop out of the net.

Q. But you have never seen any numbers of salmon floating down the river dead?—A. I have seen dead ones once in a while.

Q. Have you known any quantity of salmon being thrown away?—A. Not in later years; in former years a great number were thrown away, but not lately. Four years ago there was a very large run of fish. They got too many on hand and they asked us to stop for a day or two, and we stopped to give them a chance to clear up the cannery, &c.

Q. Then you say they threw away fish some years ago, but not now?—A. Yes, but not now.

Q. What about the spring salmon—they are white and red, are they not? What is done with the white?—A. They are generally given away to the Indians. We often salt them and sell them for what we can get.

By Mr. Higgins:

Q. You know the steel-head?—A. Yes, what we call the salmon trout.

Q. Are they very destructive?—A. I consider them a salmon and one of the salmon family, only just a different species. They are a superior fish and some esteem them the finest fish that came into this river. The canners don't care about using them for the simple reason that the bone of the steel-head is harder than others and requires more boiling and therefore cannot be put up with other fish.

Q. Are trout injurious to spawn?—A. Yes, I know trout are.

Q. Then should the trout be cleaned out?—A. Well, as far as salmon are concerned, but I don't think the anglers would like that.

Mr. Higgins.—Never mind the anglers; we are here to look after the fishermen.

By Mr. Wilmot:

Q. Do you think trout destroy spawn by eating it?—A. No; I think not; I don't think they eat it.

Q. The humpback salmon—they are caught along with the last run of sockeyes, are they not?—A. Well, they come in after the sockeyes—in between them and the cohoes.

Q. When humpbacks are caught along with sockeyes what are done with the humpbacks?—A. Oh, they are thrown away—you cannot do anything with them.

Q. Are they numerous?—A. Well, some years they are. I don't know whether they are of the same salmon family—the male is not at all like the salmon, though the female is. The male has a great hump and the scales are different, being as fine as any trout scales.

Q. Do you know that salmon undergo great changes in the river to what they are in the sea?—A. Yes; but these fish are very changed, there is but little difference.

Q. Then the humpbacks are sacrificed for a few sockeyes?—A. Yes; for sockeyes and cohoes. They come in differently from the salmon—they come in every third year, not every fourth year like the sockeye. Then they come in so strong you are glad to get rid of them in the best way you can, for they destroy your nets.

Mr. Wilmot.—Gentlemen, I may say that I ask these questions for knowledge, as I am not aware of the habits of these fish, and it has been represented to the department that great numbers of these fish are thrown away because they are not used for canning purposes, and I desire to find out for the department all the information we can gather in connection with the sources of fish food in British Columbia rivers.

Mr. Higgins and Mr. Armstrong.—Certainly, Mr. Wilmot, certainly.

Mr. Holliday.—About the humpback, it is not that they are thrown away simply because canners will not use them—they are of no use to any one else, except the Indians. They prefer them to any other of the salmon fishes, but the white people won't have them.

By Mr. Wilmot:

Q. Are you of the opinion that young salmon would be at all engaged in eating up offal under the canneries?—A. I never saw any of them. I have seen them haul up these little fish and pile them up by the bucketful, but I never saw any young salmon among them.

Q. Well, now, sir, have you anything further you desire to state?—A. No; I think not. I think I have touched on all the points of importance in the industry.

Mr. Wilmot.—Very well, thank you, sir, that will do.

D. H. PORT, a native of Ontario, a resident of New Westminster for five years, and a fish-dealer, was duly sworn.

By Mr. Wilmot:

Q. Well, Mr. Port, we will be pleased to hear what you have to say.—A. Well, I have not prepared anything particular to say, but if you have any questions to ask me on any matters, I would prefer it that way and I will state my views as I go along.

Q. Very well, sir. Now, what are your views as to the disposal and effects of the offal in the river?—A. As affecting the fish business, I don't think it is detrimental to the river. The river is very cold and pretty swift, and the offal is carried down to sea.

Q. You are from Ontario, are you not?—A Yes, sir.

Q. Is the river colder than rivers in Ontario?—A. Yes, much colder.

Q. Have you any knowledge of the temperature of rivers in Nova Scotia and New Brunswick?—A. No, not any great knowledge, but I think it colder than eastern rivers, except some mountain streams.

Q. Can you say anything in regard to the comforts and convenience of the inhabitants—that is, in connection with this offal?—A. Well, I can't say much on that subject; I have not observed it from that point of view, but I don't think it would affect any one.

Q. Have you fished at the mouth of the river?—A. Yes, sir.

Q. Have you seen offal there in the nets?—A. No, sir.

Q. It is then, you think, non-injurious as far as fish are concerned?—A. Not as far as fish are concerned. I don't know anything about it from a sanitary point of view.

Q. What is your view of the limitation of nets? Should there be a limitation to canners or to fishermen?—A. I can simply give my opinion. I think that the protection of certain men or canners by limiting the privileges of the river to them is unwise. I think if the industry will not pay a man to work, either as a fisherman or in a cannery, no one will work at it long.

Q. Then you think the license system should be thrown open to all?—A. Well, no, not to all, but to all residents and British subjects, with the judicious supervision of the inspector.

Q. Would you say that individual fishermen fishing with one boat should get a license, or would you give the privilege to all to get as many licenses as they liked?—A. Well, I think if the canneries have the privilege of putting out as many boats as they like, the fishermen should have the same privilege.

Q. But has capital no special privilege?—A. Oh well, a cannery would not spend anything more than they can make profits out of any more than the markets would what they could afford.

Q. But if the canneries had 100 licenses each, could they not get all the fish they wanted?—A. Yes, but they would have to employ labour to get them.

Q. But would they not be in a position to control the whole fisheries of the river?—A. Oh, I don't think so—they have never done that in the past—before the limit was put on the cannerymen had the same rights—the thing would find its own level.

Q. Then do you think one license should go to the canner and one to each fisherman?—A. No, I think it should be this way: every fisherman and British subject, and every canneryman should be able to get as many licenses as they wish. If fishermen are enterprising and can afford to run two or three rigs, why, let them.

Q. But would not all combined be too much for the river to stand?—A. Well, the Government could look after that—the remedy would be the close time.

Q. That is just what this Commission is for. We want to get the amount of fishing on the river that is safe for the fishery?—A. Well, everyone wants to get licenses, but this is owing to the limit put upon them; they have, in consequence, a fictitious value and everyone naturally wants to get one. I was here in 87–'88 and then everybody who wanted a license could get one.

Q. Is the principle not in vogue here that a canneryman gets out his own supplies of licenses, say twenty, and then sends in names of Indians and others and uses them for the cannery?—A. Well, I suppose they do advance money to a good many fishermen.

Q. Then there is a sort of barter or sale of licenses after they are issued?—A. Yes, there is.

Q. Do you think it is wise to have a Sunday close season?—A. Yes, sir.

Q. Do you think it sufficient as it is now?—A. I think it sufficient as at present, under existing circumstances—if the boats were double the close season would have to be enlarged.

Q. Then too excessive fishing would injure the river?—A. Yes; I think too much would hurt it. I think this: the amount of salmon actually caught by boats in this river and used, as far as we can find out from the fishery office returns, is very, very small in comparison with the numbers that go up the river.

Q. What record have you of those that go up the river?—A. Only our observation.

Q. But no facts?—A. No; I suppose a couple of millions of salmon would cover everything that is caught, even in a year like 1889, and yet that must be but a part of those that go on up.

Q. How do you know?—A. I speak of observation in the matter. In '89 I was up the river—at the last station on the river—and I know salmon were so thick there that the few that were taken out was simply nothing.

Q. What do you think of an annual close season?—A. I don't think it would apply here, as we are never allowed to fish on the spawning beds.

Q. Neither are they anywhere else?—A. Well, what I mean is the salmon only run in certain times—the sockeye in July and August, and the weekly close time I consider at present sufficient, and after the end of August the run is pretty well over and the canneries filled, or if not filled they have done work.

By Mr. Wilmot:

Q. Do you think the first run coming up should be bred? Do you believe in artificial breeding?—A. Yes, I do; but I don't know if it makes much difference which kind you breed.

Q. Do you think the hatchery has been of any benefit to the river?—A. Well, I cannot say clearly on the subject; however, I think that enough has been proven in favour of the hatchery to warrant the continuance and perhaps even the extension of the work, but I have not been here as long yet as others to see.

Q. Do you fish yourself or employ others?—A. I employ others.

Q. How many licenses had you last year?—A. Ten.

Q. What as?—A. A freezer.

Q. The fish that are caught for you are frozen?—A. Frozen or shipped in ice.

Q. The whole fish goes away then does it not?—A. Yes; they go away whole.

Q. You have no offal, then?—A. No, sir, none at all.

Q. In the canning business a large proportion of the fish is thrown away; with the freezing process that is not the case?—A. No, sir.

Q. Is the freezing business growing or decreasing?—A. It is increasing, though it has been difficult this last year to do our work.

Q. Do you ship spring or sockeye salmon?—A. Spring salmon.

Q. What do you do with white salmon?—A. Well, they are of little value—we sell them.

Q What are done with the white ones caught in the net?—A. There is no discrimination.

Q. How do you tell before bringing the salmon in?—A. The difference cannot very well be told without cutting them to see—though some fishermen can tell.

Q. What is your opinion as to what is done with white salmon caught in the net and known to be white?—Well, very few are thrown away—not 10 per cent of white are caught. We have found out during the last few years that so many white salmon come up in the fall that we don't fish the run. If circumstances were such as we could get white salmon in competition with codfish, or other cheap fish, we might do something, but the carriage is so great we cannot compete with the low grades of fish.

Q. Then your business does not hurt the river with any offal?—A. No, sir.

Q. You are not engaged in the canning business?—A. No; entirely in the freezing line. I have been listening to the discussion to-day and two or three times it has touched upon the fish dying after going up the river, and I would like to say a word upon that. In Mr. Mowat's letter I think you stated that he contented that salmon going to the Selkirk Mountains do not return. I must bear him out in that. I don't think that 10 per cent or 15 per cent come back from those high waters. The fish that do not go so far I think return in greater numbers.

Mr. Wilmot.—As evidence our overseers have marked fish which have been found next year.

By Mr. Armstrong:

Q. Do you consume all the fish you catch with ten boats?—A. In most cases I did mainly—for a week or two during the height of the sockeye run it would be impossible to consume them all.

Q. What do you do with them?—A. We use all we can and then lay up our boats if the quantity brought in is too great.

By Mr. Wilmot:

Q. What might you get per pound for the salmon you send east to Toronto?—A. It runs from 12 cents up to 30 cents.

Q. Then an eight pound fish would be 96 cents. Now, if that same fish were canned it would be worth about 40 or 50 cents, would it not? Now, it appears the freezer not only makes no offal but gets a better price for the whole fish. Well, Mr. Port, have you anything further to tell us?—A. No, I think not just now.

JOHN BUIE, a resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. It has been stated, Mr. Buie, that you can give some information upon the questions under consideration here. Are you prepared to give us it—if not, perhaps you would prefer being questioned?—A. Well, it might be better to ask me the questions.

By Mr. Higgins:

Q. You were formerly fishery guardian, were you not?—A. Yes, for a number of years.

By Mr. Wilmot:

Q. What are your views as to the throwing in of the offal, Mr. Buie?—A. Well, really my views did not coincide with Mr. Mowat's. My own views are that it is almost impossible that it can be detrimental to fish. As a nuisance to the inhabitants, that is another matter, but I do not think it is hurtful to fish. Last night I was here and heard some stating that it was detrimental to fish, and I made a little calculation.

Knowing the amount of water that goes down the river, I consider that the offal would not be one-half an ounce to a tank full of water the size of this room—(the Commission was sitting in a large room),—and that pure running water that does not go above 50 degrees in the summer time opposite this city.

Q. I suppose you are aware that a drop of prussic acid, if put in a bucket of water would have a bad effect?—A. Yes; but I still think that that would be even a bigger proportion than the offal in the river. It has a width of over 900 yards and over a depth of 20 feet and flows at the rate of four miles an hour.

Q. Then all the fish that die up the rivers would not affect it either?—A. It might affect it if on the spawning beds, but I cannot imagine how it can affect fish life in the river below here.

Q. But it might be injurious from a sanitary point of view—for instance, where offal lodges?—A. That is my conclusion.

Q. Have you known of its effects upon nets at the mouth of the river?—A. I never heard of complaints till last night. It is possible it might so affect the nets, but I never heard of it.

Q. What do you think of the limitation of licenses on the Fraser River?—A. Well, when I was on the river for about a year I thought then the river was liable to be overfished, but the more I saw of fishing and the manner and way it was conducted, and the more I became acquainted with the Fraser, I thought the danger was less than I had imagined.

Q. Why did you change your mind on that question?—A. Because I used to think the nets would drag nearer the bottom, but after I saw men fishing I saw it was impossible to prevent the salmon coming in at the mouth of the river, no matter how many boats they put on. Each boat that undertakes to drift but wants a clear way and you cannot put them beyond a certain closeness.

Q. Then the nets no matter how placed would not prevent enough fish from reaching the spawning beds?—A. Well, of course they are thinned out—they must be. The question is, what would be the percentage of all the fish that come in that would be enough for breeding purposes. Whatever the decrease may be and however small the run it would be a surprise to the Commission if they were at Harrison River and see the numbers coming to spawn. The little lake looks also as if simply covered and the fish seem innumerable.

Q. Then you think the present amount of fishing by nets anywhere on the river is not severely detrimental, but to an extent it is detrimental?—A. No; I would not say that—I think it not at all detrimental.

Q. Well, you say scarcely enough go up to breed?—A. No, I don't say that.

Q. Would you consider it detrimental if as many again of licenses were issued on the river?—A. Well, I think the number of licenses issued does not control the amount of fish at all. Now, out on the sand heads they are just as thick as they can be when the fish are coming in, and before high water the fish are bound to come in—before, they cannot get through on account of the nets, but once they get in the river, they are in the channels too deep for the nets to catch them.

Q. Would it be detrimental if 1,200 licenses were issued—say there are 600 now?—A. Well, Mr. Wilmot, you don't understand it. If there was room for 1,200 nets they could fish the river just as well as now, and I don't think it would be injurious; it would be simply compelling them to have more boats and nets and not catching more fish.

Q. You would have no limitation then, either to canners, freezers or fishermen?—A. I would not say there should be any limitation—it is not required. Let them have as many licenses as the people want, both canners, freezers and fishermen.

Q. What do you think of the Sunday close time?—A. If there is any doubt of the number of boats overfishing the river, the weekly close time would compensate for it. I believe in the Sunday close season, that is even if that number of nets would have an injurious effect, the Sunday close season would open the gate for the fish anyway. Perhaps I may make myself plainer by saying that the Sunday close season and also the close season for sockeyes as now, would be quite sufficient for insuring a sufficient number of fish for going up the river.

Q. Well, then, how about an annual close season?—A. Well, the fish in passing up in the same day get beyond the fishing limit before spawning. There is a close season for sockeye-salmon now and which I think is a very good thing in protecting the last run of sockeyes that come in. We had in one year, from the 25th August to 15th September, or all of September. These were instructions from the department, and it was stipulated in the licenses for some years.

Q. You are acquainted with the description of nets used, are you not, Mr. Buie?—A. Yes; I know them.

Q, Five and a half inches extension—that is the law, is it not?—A. Yes; that is the law. It is the best mesh for catching the sockeye, and it would not be profitable to use a less size—salmon would not gill.

Q. Would it be injurious to use a smaller net?—A. Well, I don't know that the injury would amount to much, because the salmon do not come here as grilse. When the sockeye come here they are full-grown and matured, and though sometimes of smaller size—for instance, in the year of a big run twelve or thirteen fish are required to make a case of canned salmon, where ten would do in an off year, and even if the mesh was reduced, nothing would be caught except matured fish.

Q. So you think $5\frac{3}{4}$ inch the right mesh for catching sockeyes?—A. Yes.

Q. Have you a knowledge of the two modes of fishing—gill-nets and seines?—A. Seines are used in salt water; they are not used on the rivers at all.

Q. Would it be just for a net three and a half inches in mesh to be fished in salt water while five and three-quarters is used in the rivers?—A. Well, I don't think it would, probably on account of other fish.

Q. You think five and three-quarters would catch young fish?—A. No; I don't think that.

Q. Why?—A. Because my impression is that the young salmon do not return here in any quantities.

Q. Do you think a seine would catch a greater number of fish than a gill-net?—A. Well, a gill-net would not catch fish where a seine would. The gill-net is used on rivers for drifting, and seines in salt water; they are not used on the Fraser River.

Q. In your experience as a fishery officer do you think the fishing limit in the river should be shortened. It now runs up to Pitt River bridge, and to North Hammond, on the main river?—A. Oh, I don't think it would be necessary to shorten it.

Q. Well, at the mouth, do you think it should be shortened where all the boats are?—A. Oh, I don't know, fish play at the mouth of the river.

Q. Do you think it a very destructive place?—A. There is no doubt a great many are caught there.

Q. And thus prevent fish from getting up the river?—A. Oh, yes; especially when fish are scarce. I have known them to have all the boats fishing, even up to "Bon Accord," and each boat to catch 400 or 500 fish.

Q. Well, Mr. Buie, if you have nothing further to tell us now, I think we have touched on most all the points?—A. Yes; no, I have nothing further just now.

Mr. Higgins.—I want to ask Inspector McNab about persons who get licenses other than British subjects. Can you give us any information about these parties, Mr. McNab?

Mr. McNab.—I do not know of any but those who hold licenses as British subjects. There is one man who has got licenses for a number of years back. I was given to understand last year after he got his license that he had moved away and was a resident of Washington Territory, in the United States.

By Mr. Higgins;

Q. Is his name down for a license this year?—A. No.

Q. That is the only one you know?—A. That is the only one I know of.

Q. Can you point out on your books any men getting licenses who are not fishermen—men who get licenses year after year?—A. Well, there is R. B. Kelly.

Mr. Armstrong.—I have known Mr. Kelly for a number of years. He is a resident of Westminster Junction. I know him very well.

Mr. McNab.—Mr. Kelly has held a license now for three years,—one license each year.

By Mr. Higgins:

Q. Do you know of any others?—A. George Robertson, license 124, he has not been a fisherman for the last two years.

Q. Has he taken out a license every year?—A. He had no license in 1890.

Q. What does he do?—A. He is a warden in the penitentiary.

Q. Have you ever received any instructions about issuing licenses?—A. Last year there were nine licenses in the office when I took it over, and all had been applied for in March.

Q. Are they transferable?—A. This year the licenses are marked "not transferable." In previous years they were transferred.

Q. Have you the book of licenses for last year with you, Mr. McNab?—A. Yes, sir.

Q. Well, you might bring it here and let us go over the names with you, perhaps other cases might occur to you?—A. Very well, sir.

Mr. McNab then went over the list of last year's licenses, reading out the names of outsiders with whom he was not acquainted, and who in all cases except R. Morrison, of Vancouver, were recognized and specified as fishermen by persons present in the room. Mr. Morrison was stated to be a saloon-keeper.

Mr. Higgins.—Very well, that will do, Mr. McNab, thank you.

C. F. PRETTY, a native of Ontario, a resident of New Westminster for two years, a freezer and exporter of fish, was then duly sworn.

By Mr. Wilmot:

Q. We will be glad to hear any remarks you may wish to make, Mr. Pretty.—A. My main object in being here was to mention my views of the license system and to tell you what I think would be preferable to fishermen and canners, and all interested therein, and also beneficial to the fisheries in general. It is as much to our object as any person. Firstly, my idea is to give licenses to every *bonâ fide* fisherman without limit, provided he is a British subject. That all canners, freezers, salters, exporters, and such, should have a number of licenses limited to them and that that limit be considered in accordance with the quantity of fish they are capable of handling.

Q. Yes; but to limit the number of licenses to each of these business persons in accordance with the capacity of their establishment?—A. Exactly; a fair limit in that way would be to give them—say a cannery commands thirty licenses—well, I think they should have ten—that would be one-third, and they would be obliged to purchase two-thirds of their fish, which would give the fishermen a fair show. In the case of giving canners all the licenses they wanted, they would not have to buy from the fishermen at all. I would not limit the outside licenses to fishermen—any British subject should have a license who applies for it.

Q. You think that would equalize the business?—A. Yes; I do. Twenty licenses, with their own in a good year—counting two good years in four—would give them all the fish they wanted.

Q. How do you think that would affect the present canners and yourselves?—A. Well, I would be in the same position as the canners. With the freezer I have at present erected, I can handle 60,000 salmon yearly, and of course, I have to depend upon outside fishermen as well as the canners, and it would simply put us on the same footing, whereas, if we had all we want, we would hire Chinamen and others at less wages, and so monopolize the trade. But I think the fishermen should give us two-thirds of our fish. I don't want to monopolize the trade, and our fishermen should get a fair chance.

Q. In your estimation then, the trade hitherto has been a monopoly?—A. To a certain extent. If you give a large number of licenses to canners and other establishments, they will certainly take but little from the fishermen, if any. As to their own boats, of course they should hire who they like to operate their ten boats.

Mr. HIGGINS.—Do you clean your fish before you send them off?—A. No, sir; we send the whole fish.

By Mr. Wilmot:

Q. What kind do you send?—A. It is my intention to use all kinds.

Q. Where are your markets?—A. Australia and England are the markets I intend opening up.

Q. Have you sent any to Australia?—A. Not yet. I hope to this year. I have just erected my establishment here.

Q. Where were you in business before?—A. On the Great Lakes, in the whitefish and salmon trout trade.

Q. And how far in your operations there have you sent the frozen fish?—A. We have not sent them very far as yet; but we intend putting on refrigerator vessels and ship to all parts.

Q. Then you will open up a new trade?—A. That is our intention, if possible.

Q. What is the capacity of your establishment?—A. The one just completed will hold 40,000 salmon, and this will be filled probably twice or three times in the year—shipping them off by the freezing process. We also intend to build in Vancouver, for traffic in the salt water fish, and will also take salmon from this river to Vancouver—that is, from the mouth of the river.

Q. Have you been doing this business here before?—A. I had the licenses I got last year and used them.

Q. And were the fish you caught, frozen?—A. No, sir; they were sold to the canners. I was simply learning about the river before going into the new business.

Q. How many licenses had you last year?—A. I had two.

Q. What number of fish did you obtain from two licenses?—A. They averaged 3,500 a boat in the sockeye run.

Q. Then with ten licenses you will get 30,000 to 40,000 fish?—A. Well, it is calculated this year will be even a poorer year than last year. Our capacity is 40,000 fish.

Q. Then ten boats would fill your establishment?—A. Oh, we might fill it two or three times in the season, but it depends.

Mr. WILMOT (to Mr. McNab).—Do you know where Mr. Port ships his fish?

Mr. MCNAB.—To England and Germany.

Mr. WILMOT (to Mr. Pretty).—Have you any other observations to make, say, on the close season? What do you think of the weekly time?

Mr. PRETTY.—I think the time should be from Saturday morning at 6 o'clock to Monday morning at 6 o'clock, if the canners wish it.

Q. But would you object to commencing at 1 o'clock on Monday morning?—A. In that case the fishermen would start on Sunday night, but if it was fixed at Monday morning they would not commence until then.

Q. Well, then, on the same reasoning, if the time ended at 6 p.m., Sunday, it would take all the afternoon Sunday to get ready?—A. Oh, no; it does not take long to fix up the nets and boats.

Q. If the time was made till noon on Saturday would they have to work on Sunday?—A. No; I think not.

Q. Do the canners work after night?—A. I don't know. That is a question I am not prepared to answer.

Q. No? Oh, of course you are not in the canning business. Now, on the question of an annual close time?—A. I advocate no other close time except the Sunday time.

Q. Then would not that mean that at a certain season of the year you would be putting an unwholesome fish upon the market; for, of course you are aware that at certain seasons of the year all fish when approaching the time of spawning become unwholesome as food?—A. No; not at all, we must put good fish on the market or we lose our trade.

Q. But would fish be in good condition when in an advanced state of spawning?—A. We do not put up any fish but what will sell, and we have to go by the market. We don't send them fresh at these times, we salt them.

Q. But then you are sending to the market unwholesome food for the public?—A. Well, I don't know about that. I would not advocate any annual close season during which we could not catch any fish. At the spawning time they are beyond the fishing limit; we cannot fish for them, and I don't see why there should be any annual close season.

Q. Yes; of course there is, perhaps, a difference down here in a limit being placed upon the river at certain points, but how are your fish kept—in cold storage?—A. They are frozen and then kept in cold storage.

Q. Yes; well now, I think we have gone over the matter pretty well. Is there anything else you wish to present to us?—A. No, sir; I think not at present.

W. H. VIENNA, a native of Holland, a fisherman, and resident of New Westminster and British Columbia for thirty-five years, was duly sworn.

Gentlemen, I have but very few remarks to make, and they are in regard to the rotting of the nets in the river. I do not fish down below, but here opposite the town, the same rotting of the nets occurs.

By Mr. Wilmot:

Q. What is the cause of this rotting of the nets?—A. Catching the fish in the warm weather, and then some don't use them properly.

Q. Well, with regard to the offal in the river—what is your opinion as to its effects?—A. Oh, I think the small fish take it and eat it up just as fast as it comes down from the canneries—trout, chub, perch, suckers, and all kinds like that.

Q. Do you think the Chinamen are beneficial for destroying these fish?—A. Oh, well, they never come to my place to catch only, because they won't buy, and I won't have them around the place. If a Chinaman comes to my place to catch those small fish, and I know he never buys anything from me, I don't let him do any fishing.

Q. Oh, I see, not a customer, eh?—A. No, sir; Chinamen are not much customers anywhere.

Q. Do you ever get any offal rotting in your net?—A. No; not up here.

Q. What about the number of licenses to be given on the river?—A. Oh, I think every person who applies for a license should get one, that is if he is an actual fisherman.

Q. You don't think then that hotel-keepers or grocers should speculate in getting licenses and selling them to fishermen?—A. No; he should be an actual fisherman.

Q. And the one license would be sufficient?—A. Yes; for shipping or selling, I think the one license would be sufficient.

Q. What about the limitation of licenses to canners or freezers?—A. Well, I don't think they want any less than at present.

Q. Well, but would you give them unlimited numbers?—A. No; I would give them according to the size of the cannery—if a big one, many; if a small one, few; some canneries are double others.

Q. Then you think every British subject and actual fisherman should get licenses, and that the canners should get them according to the size of their establishments?—A. Yes.

Q. Do you think twenty licenses too many for the canneries at present?—A. No; I don't think it too many.

Q. You and your brother fishermen would not complain?—A. I think not, sir.

Q. What do you think of the Sunday close time?—A. It is a good thing. We all want Sunday to ourselves.; I think it is a very good law.

Q. Do you think there should be any limitation as to place for fishing at the mouth of the river—do you think it a more dangerous place?—A. Well, we are divided on that. Sometimes we catch just as many fish here as at the mouth. After Sunday night, on Monday, we get more fish up here than anywhere, which shows that the fish have had a chance to get up.

Q. Are more boats fishing at the mouth than here?—A. Yes; I would consider it about six to one.

By Mr. Higgins:

Q. When nets are stretched across the lower river do you find many fish come into yours?—A. Yes; apparently just as many—it depends a good deal on the tide.

By Mr. Wilmot:

Q. How many meshes deep do you fish?—A. Forty and fifty; it is very deep water just off here.

By Mr. Armstrong:

Q. What do you think of giving licenses to Indians who apply?—A. I have no objection, provided they buy their own boat and net. As a general rule the canners advance money for these and so control the Indians.

By Mr. Wilmot:

Q. Well, but if both white men and Indians are furnished with money by the canners, how then?—A. Oh, well, if all are on the same footing it will be all right. There is one thing I would like to suggest about the white salmon. For some years I have bought all the white salmon I could get; I buy them cheap and ship them to the east to Winnipeg, Brandon, Kamloops, and other places, and of course if we sell them cheap enough we get rid of them.

By Mr. Higgins:

Q. Do you think white salmon as good as sockeyes?—A. For myself I like them very much better.

Q. Are the canners the only people who will not use white salmon?—A. No; they don't use them—some have tried it. Mr. Holbrook tried it but there is no sale for them; still, they are a nicer fish.

Mr. Higgins.—Yes; I know in Victoria people won't take a sockeye if they can get a white salmon, but of course the desire of the market governs.

Mr. Vienna.—We used to label them here lake trout, but still it appears that people do not care for them, they prefer the red colour. Mr. Brodie tried canning white salmon also, but I don't think it paid.

Mr. Wilmot.—Well, sir, have you anything further to state?—A. No, sir.

SAMUEL DAWE, a native of Newfoundland, a fisherman, and resident of New Westminster for two years, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, I suppose we may proceed with the usual series of questions as in the case of other witnesses. What are your ideas in regard to the disposition of the fish offal in the river?—A. Well, sir, my ideas are that with regard to fish I do not think it much injurious.

Q. Well, regarding the benefit to the health or otherwise of the inhabitants?—A. I believe it injurious to the health of a person who drinks the water from the river. I just speak from what I find myself, and I know that I cannot get the same good health since drinking the water, and the stench from under the canneries is something frightful, especially when the tide is low, and every fisherman has got to drink this water along the edge of the river, and I know it affects us.

Q. Has it any effects, do you know, upon the cattle or any animals along the river?—A. I have no cattle; I am not a farmer, still I do think it injurious to the health of persons working on the river.

Q. At and about the canneries, then, offal causes a great stench and unpleasantness?—A. Yes.

Q. You are a fisherman, you say?—A. Yes; I fish for the markets off the town, and in the sockeye season I fish at the mouth of the river.

Q. Has the offal, in your opinion, affected your nets in any way?—A. No; not at all.

Q. Or made any lodgment down there?—A. Oh, no; we see nothing but the little wind-bag which floats and this sometimes lodges in the nets.

Q. But you don't see anything else?—A. No; not at all.

Q. What do you think of the limitation of the number of nets?—A. I think there should be a limit.

Q. In what way?—A. There should be a certain number of nets. I don't say it should be open to everybody. I have no license myself, but I know at the mouth of the river there are as many boats as can fish there.

Q. Have you any idea why you do not get a license?—A. No; I have been told by the inspector that no licenses were granted to new-comers, but only to old licensees who had licenses before.

Q. You thought that a hardship?—A. I did think so and especially when so many licenses are given to canners and freezers, fish markets and others, it is very hard that fishermen should have so few. They should have a fair share, say two-thirds of the licenses.

Q. You think an undue proportion of the boats fishing fish at the mouth of the river?—A. Well, no more could be accommodated—as many as can fish are there now.

Q. But when the present number is 500 how could you expect to get a license?—A. Well, I think the canners and market people should be deprived of some and they should be given to the fishermen and persons who come here to settle. I don't mean to say that 500 is enough—I would increase that number, so that a fair number could go to the fishermen, while I would not throw the river open to everyone.

Q. Well, who would be the person not to get one?—A. Well, I cannot say—I speak for the protection of the fish.

Q. You think, then, the present number of boats at the mouth interferes with the fish coming up the river?—A. Yes; and I believe if it was thrown open, the 500 would soon be 2,500.

Q. Are you interested with regard to the close season at all?—A. Yes; I would like to see the Sunday close season close until the Sunday was over, not three-quarters of it, for as far as I can see about the Sunday not half of it is kept. Men get to work to get boats ready and get out on the river and wait until the time.

Q. Then you think the whole Sunday should be taken in?—A. I do; I have not fished these two years and I don't see it makes any difference to me. I think the same number of fish would be caught as if they did work on the Sunday.

Q. What mesh do you use? I mean in depth?—A. Forty meshes.

Q. And you think too many boats at the mouth of the river is harmful to the river fisheries?—A. Yes.

Q. And that there are too many boats there now?—A. Well, I would not say too many. I think there is as many now as should be. I may say I have been working for the cannerymen and have been treated very unfairly by them. I only got 10 cents for my fish, whereas the man who has his own license and boat gets 20 cents, but this last season I only got $6\frac{1}{2}$ cents, the rest being taken off for to pay for the boat and net. This only leaves $3\frac{1}{4}$ cents for myself and partner. If I had a license myself I could have sold to any one I liked.

Q. Was this the arrangement made before starting?—A. Oh, yes, we made the arrangement, but if the canners had a larger number of licenses they would treat us and other fishermen even worse.

Q. And you have applied for two years past for the licenses?—A. Yes, and I have applied this year.

Q. And you had to go and fish for the canneries and take just what they wished to give you?—A. Yes, just what they wished to give me.

Q. Do you think that the licenses should be transferable?—A. No.

Q. It should be then to the actual fisherman, freezer or canner?—A. Well, the canneries, of course they hire us to fish for them under their licenses, but others should not be transferable.

Q. Do you see many dead fish when you are fishing?—A. No, not many.

Q. Well, you see some?—A. Yes, some.

Q. When do you see them, during the sockeye run?—A. Yes, but not a great many—they seem to have received injuries.

Q. Do you fish after the sockeye run?—A. No, because the canneries are closed down.

Q. And if you had licenses for yourself you could go on fishing for humpbacks, &c.?—A. Oh, we don't want the humpbacks.

Q. About how many fishermen—white men—are there on the river?—A. I could not give any idea.

By Mr. Armstrong:

Q. Are there a hundred?—A. Oh, yes, there are a hundred, perhaps two hundred would be an outside figure.

Q. Is the majority of fishermen employed by the canners, or with their own boats?—A. For the canneries.

By Mr. Wilmot:

Q. Well, two men to the boat would give one thousand men.—A. Well, Indians fish four men to the boat. I cannot tell the number of white men—I never thought particularly of that—quite a number of Japanese fish on the river.

Q. Well, there were 580 odd boats last year—that would be about 1,160 men, of which you think only two hundred were white men?—A. Well, perhaps that would be about the number—I don't know though—there are only about fifty licenses given to white men, that is white fishermen—more than forty go to the Indians on the Fraser River.

Q. Well, sir, have you anything further?—A. No, I think I have stated all I wished to.

The Chairman thereupon declared the Commission adjourned at 5.30 p.m., to meet again in the City Hall at 7.30 p.m.

20th February, 1892.

The Commission reassembled in the City Hall, New Westminster, at 7.30 p.m.

Present:—Mr. S. Wilmot, presiding; Messrs. Higgins and Armstrong, and the Secretary.

Mr. D. J. Munn handed in the following letter, which was read and ordered to be inserted in the minutes of proceedings, and to be taken as part of that gentleman's evidence given during the day:—

"New Westminster, 16th November, 1891.

"John McNab, Esq.,
"Inspector of Fisheries for British Columbia.

"Dear Sir,—In response to your request of the 3rd instant, I, with pleasure, now submit you the information I received in regard to salmon when on my recent visit to Lillooet and to Seton Lake.

"The lake is drained by a stream called Seton River, which is about a mile in length; thence into Cayouse Creek and on a distance of two miles to the Fraser River.

"At the time I was there the streams were at a normal height. Some Indians were then scooping out salmon for a winter's supply, and I examined them carefully. They proved to be sockeye salmon, nearly all of which were female but contained no ova. They were very spare and discoloured, and though quite numerous were all endeavouring, apparently, to reach the lake.

"On the river banks was a mass of decomposing humpback salmon, and I learned from Mr. H. Keary, that these had started to come in about the 12th of September, and ceased about the 1st of October. There was an unusually heavy run of them this year. As you are aware, it was the 6th or 7th of September when these fish were notable for quantity in the lower Fraser River, and the marvellous rapidity of their ascent through the cañons, against the rapids of the Fraser is thus pretty clearly indicated. The quinnat, or spring salmon moves towards the lake in an indifferent quantity from May until July, when the sockeyes make their appearance and continue up to the latter part of August. The second or fall run of sockeyes, such as I observed, have appeared only in every alternate fourth year, and after the humpback run off this particular year is over. They are always inferior in quality and appearance to the regular summer run of sockeye salmon.

"At the point of efflusion from Seton Lake into Seton River the exit is narrow, shallow and the water fairly swift. Here the Indians congregate and scoop up immense quantities of sockeye salmon fry in the month of May, when these are leaving the lake and probably heading for the salt water. These salmon fry are sun-dried and stored for winter use. The Indian agent for the district, Capt. Mason, kindly procured some of them for me. They measured in length an average of about four and a half inches, with a proportionate thickness of body. The agent, I was told, endeavoured to impress upon the Indians the disastrous consequences of the wholesale slaughter of these fish, and admonished them to quit the practice for their own sakes, which he expected would be done. I inquired of various people in that vicinity about the quantity of fry leaving the lake, which they say occurs when the spring freshets are well under way, and they one and all agree that the quantity of fry going down is large or small in proportion to the quantity of sockeye salmon entering the lake the year previous. This would indicate that the fry are about seven months old when they depart for salt water. The trout here find no allurements in the angler's bait during the months of September, October and November, or while salmon ova is in abundance.

"The two consecutive heavy and two off runs of sockeye salmon have been regular, with one exception—1888—since the days of the miners in 1858, and back into the traditions of starvation years among the natives. It is also asserted by the closest and most intelligent observers here, that the run of salmon in recent years has if anything increased.

"I may add that this section of the country affords a most favourable opportunity for investigation into the habits of the salmon frequenting these waters and for collection of data, valuable from a scientific stand-point.

"The doubt, for instance, as to whether salmon ever return to salt water after having made ample provision against the extinction of their species by the deposit of their ova, could on Seton River be proved beyond dispute, and this strange and interesting phase of fatality conclusively determined. Observation would also add greatly to the knowledge we now possess of the young fry, by comparing those artificially hatched with those produced under natural conditions, and many other matters of information essential to a proper understanding of the conditions of supply, could be easily obtained, thus giving zest to further interesting research and inquiry.

(Sgd.) "D. J. MUNN."

JARED C. WESTON, a native of Nova Scotia, a fisherman by occupation, and resident of New Westminster for several years, was duly sworn.

By Mr. Wilmot :

Q. Well sir, have you any statement to make in regard to the fisheries of this province, or kindred matters?—A. I would rather if you would ask me questions, sir.

Q. Well, if you have any particular point——A. I would prefer speaking on that afterwards.

Q. Very well. What do you think of the effects of throwing large quantities of offal in the river?—A. I don't think it interferes at all with the fish.

Q. But with regard to health and from a sanitary standpoint?—A. Well, as regards myself, I cannot complain about drinking water, but I know that lots of fishermen have been in hospital as a result of drinking the water, and have had typhoid fever, &c.

Mr. Higgins.—Water from near the canneries?—A. Oh, anywhere from the mouth up.

By Mr. Wilmot :

Q. Do you find much offal lodged about?—A. Yes ; I find lots, and get it in my nets.

Q. Where do you fish?—A. In the sockeye run, down at the mouth of the river.

Q. Do you notice the offal in shallow water?—A. No.

Q. What effect has it upon your nets?—A. I don't know as it has any. It may make them dirty.

Q. Do nets in that condition prevent fish entering them?—A. No ; a man washes his net often—in fact, every chance he gets.

Q. Then, on the whole, it is not injurious to fish entering the river?—A. No ; I don't think so.

Q. Well, then, as to health—what effect do you think the offal has?—A. I think it injurious.

Q. And some diseases may, in your opinion, such as typhoid fever, be brought about by this offal being thrown into the river? You say some fishermen have been sick?—A. Yes ; several have been in hospital.

Q. What are your views as regards the limitation of nets?—A. As regards canners and freezers I would like to see them get no more than one license each, also salters ; but fishermen who work their own boats, I believe every British subject should get a license who requires one.

Q. Then all *bonâ fide* fishermen, being British subjects, should get licenses?—A. Yes, sir.

Q. With regard to the close season, what are your views?—A. Well, I think it just as good as it is with the exception that if rules are made, I would like to see it started at 12 o'clock on Saturday to Monday morning at 6. That would give canners a chance to clean up, and if they were getting too much fish, they could stop their boats.

Q. Then you are quite of the belief that Sunday should be kept wholly both in the interests of morality and the interests of the fisheries?—A. Yes.

Q. If the close season is established at those hours, the canners would adapt themselves to the circumstances, would they?—A. Yes, sir.

Q. What about an annual close time—you know in Nova Scotia there is an annual close season?—A. I left home twenty years ago—there was not much talk of salmon fishing there then.

Q. But what is your view here as to an annual close time?—A. Well, I should think when the salmon are ready to spawn, fishing should be stopped, say from the 25th of August up to 25th September, or end of September.

Q. Would that give an annual close time sufficient for the protection of the fish?—A. Yes, sir.

Q. What come in after the end of September?—A. Cohoes, and we are not allowed to fish for spring salmon through the winter.

Q. Are the spring salmon in the river in the winter?—A. Well, I think so. I have known Siwashes to catch steel-heads along in January for their own use up river.

Q. You have never taken any yourself?—A. No, sir.

Q. You think it advisable that some restriction should be placed on the excessive fishing at the mouth of the river, do you not?—A. No, sir, I don't.

Q. But the boats congregate there very largely, don't they?—A. Well, yes, they are pretty thick, but if the boats are too thick to catch fish they go farther up the river.

Q. If the boats were lessened in number, would not more fish go up the river?—A. Well, I don't know but it would be that way.

Q. Is the exact mouth of the river where netting is carried on, very narrow—more there than farther up?—A. Yes; I think it is. Still, the salmon go in with the tides all over the sands. Canoe Pass is also a big fishing place and fishing goes on right out to the edge of the Gulf.

Q. What number of meshes do you say you fish?—A. Forty meshes. I have not had the pleasure of owning a net yet. I have applied for licenses but never got them.

Q. How many years have you been here?—A. Six years—I have applied for three years.

Q. What excuse did they give you?—A. Because I never had one before. I could have had one in 1888, but I put it off too long, and then the licenses were limited.

By Mr. Higgins:

Q. Are you aware of any men getting licenses who were not fishermen?—A. Yes; lots of them. I don't call Mr. Port or Mr. Vienna fishermen no more than the canners are. Also a man named Miller from Washington Territory—he is a stranger and should not get one.

Q. Do you know of any others?—A. Well, I have only heard of others.

Q. Any saloon-keepers?—A. I have heard of them. I heard that Brennan, of the Cleveland Hotel, got one.

Q. Mr. McNab, can you tell us anything about this?

Mr. McNab.—No one of the name of Brennan got a license last year.

By Mr. Wilmot:

Q. Then I understand the proportion of licenses issued to persons like yourself and others would amount to 60 out of 580—that is what you complain of, is it not?—A. Yes, sir; I don't see how Mr. Port and Mr. Vienna get ten licenses. I don't think Mr. Port entitled, because the ten licenses are laid off when the fish come in heavy, and then in the sockeye run after the spring salmon are over, it will take but one or two boats perhaps to keep his establishment going.

By Mr. Higgins:

Q. What does he do with his fish?—A. He sells them to the canners.

By Mr. Wilmot:

Q. But is he not a freezer?—A. He has not frozen any fish to my knowledge during last year, and I have been working for Mr. Port for two springs, and to my knowledge he don't freeze any fish.

Q. Did you fish for him during the sockeye run?—A. No, sir; I would not work for him.

Q. Did he freeze any then?—A. No, sir. Mr. Port paid 8 cents for fish and Mr. Ewen was paying 20, so Mr. Port sold his to Mr. Ewen. All the freezers are the same.

Q. What is the difference between a spring salmon of about twenty pounds and a sockeye of from seven to eight pounds weight—that is, the difference in value?—A. Oh, it would be considerable. A spring salmon is worth all the way from 50 cents to $1.25. They are often scarce.

Q. What is their usual size?—A. From fifteen to thirty pounds, on an average about twenty pounds generally.

Q. And with your experience in fishing, what would you say is about the average weight of the sockeye?—A. Some are small, some large, I never weighed them.

Q. Were you fishing in 1889?—A. Yes, sir.

Q. In 1890? That was a large year I think, was it not?—A. 1889 was a big year.

Q. What was 1890?—A. A good season.

Q. What was the average of fish that season?—A. I could not say—they were larger than in a big run—I should think they were about eight pounds.

By Mr. Armstrong:

Q. You never weighed any?—A. No, sir; I never did or saw one weighed.

Q. Do you know how many cans an eight-pound salmon would make? Four or five cans?—A. I should think it would make four cans anyway.

Q. And then if it made four or five cans the balance would be offal?—Yes, sir.

Q. Is all that thrown away?—A. Yes, sir.

Q. But as a matter of fact you don't know how many cans a fish would make—you don't really know?—A. No, sir; as a matter of fact I don't really know, I have heard say they make that number.

Q. Is the run of sockeye salmon later in the season than formerly?—A. I don't know that it is.

Q. Not later than three or four years ago?—A. No, I don't know that it is.

Q. How long did you fish this year?—A. Fifteen or twenty days.

Q. How late in the season for the cannery?—A. To about the 15th or 20th of July.

Q. And how late the season before?—A. 25th August, I think. I am not certain exactly. Our cannery shut down earlier than most of the rest on account of the tins being exhausted.

Q. Well, now, what about the Indians getting licenses?—A. I think they should get licenses, too, if they pay for them and can furnish their own boats and nets the same as white men, but not apply for a license and then get the cannerymen to pay for it.

Q. How are you going to avoid that?—A. Let him show his license, the inspector is on the river.

Q. The boat you fished with, was it under a boat license belonging to Mr. Port?—A. Not this summer. This summer I fished for a man named Boutillier.

Q. Is Boutillier here?—A. No, I think not; his partner was here this afternoon.

By Mr. Higgins:

Q. About this typhoid fever, are you quite sure it comes from the water?—A. Well, I think it was from that—my partner was sick and I considered it was from that.

Q. Did he die?—A. No, sir.

Q. Where did he live, in town or on a scow?—A. Oh, he lived in good condition, he was all right. I can tell you the fishermen on this river, if they can afford it, like to live well.

Q. Do many fishermen live in scows?—A. Yes, sir; a good many.

By Mr. Armstrong:

Q. Where do they bring the scows at night?—A. Always in some place right close to the edge of the water.

Q. And if there is any impurity in the water he is sure to get it?—A. Yes, he is sure to get it.

Q. And yet you live there, you think it a proper place for men to live?—A. Well, we have nowhere else.

By Mr. Wilmot:

Q. How did you fish your boat this year?—A. On shares, I got 10 cents, divided between myself and partner, or 5 cents each.

Q. What was the market value of fish?—A. Well, I have heard it was 15 cents.

Q. When you got only 10 cents?—A. Yes.

Q. What were salmon fetching that were sold to Mr. Boutillier by other people?—A. I don't know.

Q. Did you think you got the full value?—A. No, sir; I thought he was getting 20 cents while I was getting but 10.

Q. Well, is this a regular practice for freezers and salters who get licenses and hire men like you, to then go and sell the fish to the canners and give you only a share?—A. Yes, sir.

Q. If you had a boat of your own what would you have got?—A. Twenty cents.

Q. Have you seen dead salmon floating down the river?—A. I have seen a few in August.

Q. These salmon, in your opinion, would they be salmon that had been wounded or weakened and had then died—do you think they had been injured before death?—A. Well, I could not say. I think they had spawned, because they looked thin and narrow, but then we don't stop to investigate dead fish.

Q. What about these white salmon—the spring salmon are both white and red, are they not?—A. We get a few and salt them for our own use if the market don't take them. They will take them if you will give them to them for nothing.

Q. Who does that?—A. Mr. Port and Mr. Vienna.

Q. And so they take the red salmon and pay you for them, and the white salmon they only take for nothing?—A. Yes.

By Mr. Higgins:

Q. Do you not think the white salmon a good fish?—A. Yes; I prefer them to the red.

By Mr. Wilmot:

Q. Are they caught more or less all summer?—A. Yes; all summer.

Q. And are they marketable?—A. Not the white.

Q. Are there more of white than red?—A. Yes; often they are more plentiful.

Q. And you give them away?—A. Yes; often to Siwashes and others.

Q. Do you know any cases where white salmon were caught and thrown away?—A. No, sir; I would salt them before throwing them away. I would like to say that I think, on account of canners having so many licenses, that we fishermen should be given the preference on the river. Siwashes or white men should have first chance, then freezers, salters and canners, for as long as you issue twenty licenses to canners, when the big run comes the canners can get fish enough with their own boats and then they do not want the outside fishermen.

Q. Then the canners become monopolists?—A. Yes; we are prevented from earning our living.

By Mr. Armstrong:

Q. That is only during the big runs?—A. Yes; but if salmon continue as they did this year, it will be two or three years out of four.

By Mr. Wilmot:

Q. But is this not opposed to the prevailing theory?—A. Well, we have had good runs in consecutive years.

By Mr. Armstrong:

Q. Would twenty boats be sufficient to supply the canners last year?—A. Yes, sir; the canner I fished for had twenty boats and three outside licenses, and then we had to shut down because we got too many fish. We had to lay off thirty-six hours in the middle of a week, that is thirty-six hours in the whole fishing season.

Q. What was the capacity of the cannery you worked for?—A. I have no idea—it was Ladner's cannery.

By Mr. Higgins:

Q. Do you think the canners should have any licenses?—A. Well, if there are British subjects and resident fishermen enough to take up all, they should have none, or perhaps one each. They make lots of money, let them buy their fish.

By Mr. Wilmot:

Q. Then you consider they should depend upon the fishermen for their fish?—A. Yes, sir.

Q. Would you think it unfair to give the canners ten or fifteen licenses? They would depend upon the fishermen for the rest of their fish if they required more.—A. Well, I don't object to the canners if the fishermen get their licenses, but I want to see the fishermen get their licenses first. The workingman on the river should get the first chance. Very nearly all the fishermen who get licenses stay here all the year round and they spend their money here, while, on the other hand, I know some canners who don't spend a cent. They spend it away elsewhere, and according to the amount they make the fishermen spend much more money in the country.

Q. But don't the canners spend a large amount of money—don't they pay wages to the people employed inside the cannery?—A. Yes; it is true they do, but you know very well where the money that is paid to Chinamen goes—that does not do any good to the country. Then many of them get their supplies from outside, they don't spend much money here for them.

Q. What do you mean by "supplies"?—A. Well, the fishermen get all their food and supplies from the canneries during the season, and the canners get most everything from Victoria and even from San Francisco—these things are not got from resident people here.

Q. But do you not consider that the canners put capital—a good deal of money—into the canneries?—A. Well, when a man makes $90,000 in one season and——

By Mr. Higgins:

Q. Are you prepared to state that on oath?—A. Oh, no; I am not, but I know it—it is pretty well known around here.

Mr. Armstrong.—Oh, but we cannot take hearsay evidence.

Mr. Wilmot.—Well, sir, is there anything further you wish to say?—A. No, I think not—we want to get licenses, that is the great trouble.

HARRY NELSON, a native of Norway, a fishermen, nine years in British Columbia, and a resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, what have you to represent?—A. I have made two applications for licenses—this year and the year before last, but could not get any license.

Q. What was the reason given you for that?—A. Because I had not had a license before.

Q. Whom did you fish for?—A. For Mr. Ewen last year, and the year before for Mr. Harlock.

Q. On what terms?—A. On shares this year.

Q. And you are not satisfied?—A. No, sir; I am not.

Q. Why?—A. Because during the sockeye run others who have licenses sell to the canners and get all the benefit—they get 20 cents for their fish while I get but 4 cents—8 cents between me and my partner. Mr. Port sells his fish all to the canners.

Q. Did he not freeze them?—A. No, sir.

Q. Then these licenses Mr. Port gets he only uses during the run of spring salmon, and then in the sockeye run he sells to the canners and employs you at 8 cents a fish?—A. Yes, sir.

Q. Then your views would be that the outside fishermen should get the licenses?—A. I think that every fisherman who is upon the river for two years should get licenses. I think they should be all taken from the canners and Mr. Port and Mr. Vienna and such others.

By Mr. Armstrong:

Q. But does not Mr. Vienna keep a fish market?—A. Yes, but he can buy all his fish from outside fishermen.

By Mr. Wilmot:

Q. Well, now, what do you think as regards the offal?—A. I think it very injurious to the water. We have to drink it and it is very unhealthy. It is all very well to say many little fish eat it up, but I know the heads and tails get into the fishermen's nets—I have caught lots of them, and the stuff stinks awfully—a man cannot get within a mile of it with any comfort.

By Mr. Higgins:

Q. What do you do with it?—A. Oh, I chuck it away again.
Q. And where does it go?—A. Oh, the tide takes it out.

By Mr. Wilmot:

Q. Then you do think it injurious to the health of the inhabitants?—A. Yes, sir, I do. Cases of typhoid fever are plentiful down the river.
Q. Are there any cases above?—A. I don't know.
Mr. Higgins.—Well, but there is typhoid fever in Victoria and other places, in fact everywhere.

By Mr. Armstrong:

Q. Where do you live? Do you live on a scow?—A. I live in a scow, yes.
Q. Where do you usually put it?—A. Oh, at different places along the river.
Q. Then you have the benefit of all injury in the water?—A. Yes, sir.

By Mr. Higgins:

Q. Have you ever had typhoid fever?—A. Yes, sir.
Q. Was it from drinking Fraser River water?—A. No; I would not say it was from that.

By Mr. Wilmot:

Q. Now, what do you think of the Sunday close time?—A. I think the fishermen should have all Saturday and Sunday—that leaves half a day to fix the net in and generally clean up, and leaves Sunday for a holiday.
Q. Have you seen many dead fish floating down the river?—A. Yes; plenty of them in the middle of August.
Q. Where do you think they would come from?—A. Mostly from the canneries—chucked overboard—they get too many fish on hand and chuck them away; then of course, there are a few fish dropped from the nets.

By Mr. Armstrong:

Q. Did you ever see fish thrown off a cannery wharf?—A. Yes, one time at Laidlaw's cannery. Last year I saw a Chinaman chucking fish over from a scow.
Q. Were there many?—A. Well, I saw about a hundred—I don't know how many more there were before I came up.

By Mr. Wilmot:

Q. What day of the week was that?—A. On a Friday.

By Mr. Armstrong:

Q. Why did he throw them away?—A. Because they wanted fresh fish.

Q. What depth net do you fish with?—A. I use sixty meshes. It depends on the depth of water—thirty-five meshes at the mouth of the river—some use fifty, but then fish have plenty of show to go up. Most of the fishing is done in slack water, and the fish have a good chance to go up in the strong water.

By Mr. Wilmot:

Q. Well, have you anything further to tell us?—A. No, I think not, sir.

THOMAS HOOD, a native of Newfoundland, a fisherman, and resident of New Westminster for two years, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, we will be pleased to hear what you have to say?—A. I have been only two years on the river and I have but little experience in this fishery, though I have been a fisherman.

Q. Have you had a license?—A. No, sir.

Q. Why not?—A. I was told all were taken up. I fished two years by contract for a cannery, using their boat and net and license. Last year fish averaged 15 to 20 cents to those with their own licenses, but I could only get six and a half. I have a home here and a family, and I came here to try and better myself as a fisherman; hearing reports of this country I left Newfoundland to come here. I might show you, gentlemen, these references given me before leaving Newfoundland and which will perhaps vouch somewhat for my character and standing. (Mr. Hood here handed in letters of reference from Messrs: Munro and Bishop, of St. John's, Newfoundland, dated 18th February, 1890, and from G. W. R. Herlei of Bay Roberts, Newfoundland, and which testified very highly to Mr. Hood's ability and standing as a fisherman and master mariner.) After the Chairman's perusal of the above letters aloud,

Mr. Wilmot.—Certainly, Mr. Hood, those references speak very highly of your ability and dexterity both as a fisherman and mariner. It does seem hard that such a good fisherman should not have been able to get a license.

By Mr. Higgins:

Q. Do you know of any who got licenses whom you would consider were not entitled to it?—A. No, sir, I am but two years here, but still I consider that a number of licenses have been granted that should not have been. It is very hard and unjust that only fifty licenses should go to whitemen who are fishermen out of 580. It is right that the cannerymen who have gone to great expense should get licenses, but they should not have the control of everything. You can see how I stood last season, it is very plain—I could not get a license myself and was forced to take just whatever the canners liked to give. I have my own boat and net and have been raised a fisherman.

By Mr. Wilmot:

Q. Did you catch many spring salmon?—A. No; I only fished for sockeyes.

Q. What number did you take in your boat?—A. 4,300.

Q. For which you got 6½ cents?—A. Yes.

Q. What was about their average weight?—A. Six to eight pounds.

Q. Did you fish the year before also?—A. Yes, sir.

Q. Were the fish larger then?—A. They were not as large as in '90.

Q. Have you any idea how many cans the seven-pound fish will make?—A. I don't know.

Q. What do you think of this offal that is thrown in the river in such quantities? A. I don't think it does much harm—the force of the water going down this river takes it out quickly.

Q. Have you seen any in the bays and sloughs?—A. No; I fished at the mouth of the river; I have not seen the shores farther up.

Q. Do you think there is too much fishing at the mouth of the river?—A. Oh, I don't think so, sir. There is plenty of room away over to Point Roberts, and plenty of room for the fish to come in.

Q. But if less boats were fishing there more fish would come up, would they not?—A. Oh, no; I don't think any injury is done.

Q. What do you think of the Sunday close time?—A. Well, I don't fish on Sundays; but upon that point I would not like to lay down the law for others.

Q. But do you not think Sunday should be kept?—A. Yes, I think so. For the two years I have fished on the river I have not fished on Sundays, and I always found I got as many fish on Monday morning as the others who fished on Sunday night. I have done the same on the Grand Banks, and have had a schooner alongside me that fished on Sunday, while we did not; but it is a fact that we invariably got just as many fish in the long run as she did.

Q. Then you consider that there is a special Providence that favours the good fisherman?—A. Well, it certainly looks something like that. (Laughter.)

By Mr. Armstrong:

Q. If the men commenced fishing at 6 o'clock on Monday morning, how soon could the canneries commence work?—A. About noon, I think; if there were plenty of fish running.

By Mr. Wilmot:

Q. You think it is not necessary to have six hours in advance to prepare to fish—that is, they could just as well commence fishing at 12 o'clock Sunday night as at 6 o'clock Sunday evening?—A. Yes, I think so.

By Mr. Higgins:

Q. You could not induce them to give you more than 6½ cents for your fish?—A. No, sir.

By Mr. Wilmot:

Q. Do you pursue any other calling than fishing?—A. I work wherever I can get work, and whenever I can get it, with pick and shovel, anything in fact.

Q. Have you anything further to lay before us?—A. No, sir.

WILLIAM DINNEAR, a native of Australia, a fisherman by occupation, and resident of New Westminster since 1882, was duly sworn.

Mr. Wilmot.—Well, sir, proceed.—A. Well, I wish to say that I have been fishing on the Fraser River for four years, and have applied for licenses but have never received one.

Q. Why did you not get them?—A. I was notified by letter in 1889 that the whole number was issued, and if more were given out I would be notified.

By Mr. Higgins:

Q. Were you ever notified?—A. No, sir; I never was. I did not apply last year because I thought I would be notified; but I have never received any information on the subject. This is the letter I got from Mr. Mowat, saying that I would be notified. (Handed in letter, which was returned by the chairman after reading.)

By Mr. Wilmot:

Q. Have others who came in the country since you did get licenses, and who applied after you or after the date of this letter?—A. Yes, sir.

Q. Were they residents of the place or were they from other localities?—A. Well, I think one or two in particular were foreigners, but I believe they afterwards took out their papers; I think they were Italians—at least one was.

Q. What was the other?—A. I am not sure what he was.

Q. You think they took out papers—naturalization papers?—A. I think so.

Q. Whom did you fish for?—A. I was fishing on shares. Last season I fished another man's license; he was blind and he asked me to take his license and fish it, and he gave me an order for his license on Mr. Vienna.

Q. What did you give him?—A. I gave him 1 cent a fish up to 2,000, and 1½ cents for all over that number.

Q. Then you sold your fish for whatever you could to the canneries—what did you get?—A. Ten cents.

Q. Then you realized 8½ and 9 cents?—A. I divided fair with my partner after taking the cent and cent and a half out.

Q. Could you have sold at higher prices if you had had a license?—A. I could have, yes.

Q. Then why did you not sell these at the higher price?—A. Well, because I made an agreement with the blind man to give them to a certain cannery and they only gave 10 cents per fish.

Q. Did this blind man pay for the license himself or was the money advanced by the cannery?—A. I think the money was advanced to him.

Q. How many fish did you catch?—A. About 3,000.

Q. What was about their averaged size and weight?—A. I should say six and a half pounds—some perhaps went seven pounds.

Q. What do you think of offal being thrown into the river—do you think it injurious?—A. I think it is injurious to fish at times when the water becomes slimy and dirty.

Q. What do you think of it from a sanitary stand-point?—A. I don't think it healthy—I think it causes a good deal of sickness.

Q. What sort of sickness do you think has prevailed?—A. It causes fever—typhoid, I think. I have known of a few cases, not many. Then we all have to boil the water before drinking it, unless we are out in our boats and cannot help ourselves.

Q. Do you live in a scow or on shore?—A. On shore.

Q. And do you see offal lodging in the bays and sloughs?—A. Very often.

Q. And is the smell disagreeable?—A. Yes, very often.

Q. What do you think of the Sunday close time?—A. I think it very good—it gives a rest to all and lets the fish go up.

Q. What do you say about the limitation of licenses?—A. Well, I think if there is any limit to licenses, fishermen should have the preference and should have one license each.

Q. The Indian also?—A. Yes, I think so.

Q. And would you object to canners having a fair proportion of the licenses?—A. I object to them having a monopoly, but I think they should have a fair proportion.

By Mr. Armstrong:

Q. In your opinion, what constitutes a fisherman?—A. Oh, a man who can make or mend his net and who fishes.

By Mr. Wilmot:

Q. A man who bought his net would be a fisherman too, would he not?—A. Well, I mean a man who understands how to fish—I don't think a man who simply buys a net would be a fisherman.

By Mr. Armstrong:

Q. But supposing he bought his net and fished for years, would he not be a fisherman?—A. I don't think so unless he could mend or make his nets.

Q. How many fishermen are there who can mend their own nets?—A. Oh, perhaps a hundred.

Q. You don't know that, do you?—A. Well, I would not take an oath to it, but I think it would be about the number.

By Mr. Wilmot:

Q. But there are many men perhaps who have followed fishing all their lives and yet cannot make a boat or mend a net—now, don't you consider them as fishermen?—A. I think all these things should be taken into account.

Q. How many years is it since you came here?—A. I came here in 1882.

Q. Were you a fisherman in Australia?—A. No, sir.

Q. But you are now?—A. Yes, sir.

Q. Then when you first came here you would not have been entitled to a license as a fisherman?—A. No.

Q. Then you see there was a time when you were not a fisherman, though, perhaps, fishing on the river, however, I see what you mean—you mean by a fisherman not only a man who fishes, but also thoroughly understands all the practical details of the business?—A. Yes, sir, that is it.

Q. Well, now, have you anything further to tell us?—A. No, sir.

WILLIAM EDWARD DEVINE, a native of England, a fisherman, and resident of the Pacific coast between the Columbia, Sacramento and Fraser Rivers, since 1862, was duly sworn.

By Mr. Wilmot:

Q. We shall be pleased to hear what you have to say on the question of the fisheries, Mr. Devine?—A. Well, I merely came here to assist my brother-fishermen, as I think we have a good chance now to speak before you gentlemen. I think it has been a piece of injustice from the first go off, that poor men who make their living on the river cannot get licenses, and I know old fishermen who are here now, have applied several times, but could not get any license.

Q. Have you had a license?—A. For the last three years I have had, sir. You see, sometimes we go north—we go up to Skeena and Rivers Inlet and the Naas, and we happen up country and take chances. We say, if the Fraser is bad, we will go to the Skeena or Naas, and we think they will be good, and when we come back again our license here is gone—we would be off the list and no license would be granted, and other men come in and get licenses. Of course, the more goes in the better for the country; but those men who pass their time in physical labour and depend entirely upon fishing for their living, should get a license.

Q. When did you fish on the Skeena last?—A. I never fished on the Skeena. I said some of us do. I went to Rivers Inlet, but lately have stuck to here so as to save my license.

Q. You have fished on the Columbia and Sacramento?—A. Yes; I have fished in all of them; but for the last ten or twelve years I have remained here.

Q. What number of fish do you take?—A. The year before last I took 10,000.

Q. You must be a good fishermen?—A. Well, no. I was right at the door or mouth of the river, and I fished away out beyond the lighthouse, and these fish are better than those up river.

Q. How long do you think they are coming from the mouth of the river to, say, up here?—A. Well, I cannot say; but on the Sacramento we have marked the chinook and known them to be five weeks making thirty miles. We put our initials on the skin to see how fast they would travel.

Q. Was that in tidal water?—A. Yes; all tidal water.

Q. How wide was the river where this was done?—A. Well, about six or seven miles. When the fish are coming into the river you can stand in a boat and see them waiting around before they go up. I don't think that fish go suddenly out of salt water into fresh. Of course they come in to spawn. If I have two nets, I always put in the

two. On a cold day never put in your net in shallow water, but on a warm day go on the sand. The deeper the water the warmer it is. In warm weather you will always see fish play well on the sands, and I have had them alongside my boat for an hour at a time.

Q. You say you have caught 10,000 in one season?—A. Yes; but others got more than me. I was sick just from drinking the water of the Fraser River. Some men turn in 1,000 fish in one night.

Q. To whom do you sell?—A. The Gurry Point cannery.

Q. What did you get for your fish?—A. Ten cents each; if any more was given, we would get more.

Q. Should fishermen who get licenses be British subjects?—A. Yes; to a limited extent.

Q. What do you mean by that?—A. Well, I would give the licenses to men who are really fishermen and make their living by fishing.

Q. Well, suppose all were really fishermen?—A. Oh, well, you can overfish a river, but the Fraser is not, and I think the hatchery has been of great benefit. Common sense tells any one that, when for the last three years we have had great runs.

Q. Then you are satisfied that overfishing will bring about depletion?—A. Yes, certainly. Sawdust and other matters will also hurt the fish. I was in Oregon when they made the first laws for fishing, and I know they thought all such matters were very hurtful.

By Mr. Armstrong:

Q. What about the Indians?—A. Well, they are certainly fishermen and should get licenses the same as any one else.

Q. Suppose 200 Indians applied, would you give them all licenses?—A. Well, no, sir.

Q. Well, then, how many should be given?—A. About one-third to the Indians and the rest to the whites.

Q. Why restrict them to one-third?—A. Because we have made the country what it is—we taught the Indians how to fish—that is, to fish with any degree of success for commercial purposes—they were fishing with spears and grip-nets, and all sorts of odd-fashioned arrangements when first I came to the country, and all their knowledge of first-class work they have gained from us.

Q. How many licenses then would you give the canners?—A. I am not in a position to say, but I would allow a fair number.

Q. Would you say twenty or twenty-five?—A. Oh, gentlemen, I would say, use your own judgment.

Q. But we want to hear what you think in the matter?—A. Well, in the first place I would give actual fishermen the preference—then the older fishermen should have the preference—we built the country up and taught the others how to catch fish; they should have the preference among the fishermen.

By Mr. Wilmot:

Q. Would it make the boats too numerous to give each of the fishermen a license?—A. I think, sir, that it would not be overdoing the thing if each fisherman who is a fisherman should get a license, and then give to the freezers and canners, for certainly they are a benefit to the country and we would not be getting what we are if they were not here. No bartering of licenses should be allowed.

Q. In regard to the offal, what do you know of its effects?—A. I am positive it is injurious in a sanitary way. We have to drink that water, and in the dark when we take up a dip, we dip up guts of fish, and that is a nice drink I can tell you. (Laughter.) I have taken many a swallow of it to my sorrow. It is all very well for people to say the current takes the offal all out to sea, but when you come to take in your nets and find fish-guts and muck of all kinds, and then when you come to wash your net I can tell you it is not quite eau de cologne. (Laughter.)

Q. Then you know that the entrails, &c., do get into your net?—A. I am positive, because every fisherman knows that we are always picking out muck of all sorts, then we have to boil our water before we can use it.

By Mr. Armstrong :

Q. Where do you live?—A. Down at Steveston, when fishing.

By Mr. Wilmot :

Q. But do you think that what is dangerous to man is dangerous to fish?—A. Well, we have an example right over in Vancouver. There used to be a great number of herring there, but since an oil refinery was established there and they were allowed to run their offal into the water the herring have disappeared—therefore, I think it hurts the herring. It is believed that the offal must do harm. In regard to trout, I think it is very injurious to salmon, because the trout follows the salmon and often feeds upon their eggs and then there is no better bite for a trout than a salmon head. The Indians in many places get a little pole and put on a hook, and they will beat any London fisherman that ever threw a fly.

Q. Do you think salmon themselves eat their own eggs?—A. I am almost positive they do not, and I think that is not a correct theory.

Q. Then you think the depositing of offal is both injurious to man and to the fish?—A. I am positive it is injurious to the human family, and am almost sure it is to fish, and if I was betting I would bet ten to one it was, though of course it would increase the expenses of the cannerymen to have to look after it, and I would not like to add to them—they have enough to contend with already, but I think the Government should take up the matter and prevent it from going into the river, for no one wants to drink salmon guts, or if they do I am not one of them.

Q. You say you got 10,000 fish—if you had not been at the "door" and had been kept in the "room" as it were, more fish would have come in, would they not?—A. Well, I don't know. The fishermen would be too close and it would be a cause of much contention and trouble. It is bad enough now—sometimes you might as well have your net in your bed-room. (Laughter.)

Q. Then would you think it advisable, in the interest of the fishermen, that certain restrictions should be placed on fishing at the mouth of the river?—A. Oh, no; I think it does not stop fish from coming in. We are distributed away off—some three miles.

Q. What do you think of the close season?—A. I think the way things have been it is a good plan—it gives the cannerymen a chance, also the fishermen and the fish.

Q. If the fishing commenced at 12 o'clock Sunday night, would you not have enough fish for Monday?—A. Well, but who is to tell when the fishermen will put out under that arrangement, but now when all put out when the flag drops at 6 o'clock, it is quite fair.

Q. What do you think of the annual close season?—A. I think we should fish all the year round. Each kind of fish has a certain time of coming in and fish are always going up. There is one thing I would wish to speak about—the reason we want the licenses is this. Now there are canneries on this river the owners of which say "we can do without you," "we don't want independent fishermen," and if the canners are allowed to have all the licenses they want it will ruin us and we will have to pack up and go to Alaska or elsewhere, and if the canners can get Japanese or Chinamen to fish for them, why it takes the bread right out of our mouths.

By Mr. Armstrong ;

Q. Chinamen don't fish but Japs do—are there many of them employed?—A. Yes; English employs nothing else, I think, now.

Q. What are they paid, do you know?—A. About four cents a fish.

Q. Do they work in the cannery as well?—A. No, sir, they only fish. They put four men in a boat and pay them 4 cents a fish; it is starvation wages even for them, but they will stick to it like glue. The little Japs are most persevering fellows.

By Mr. Higgins :

Q. Are there many fishermen go out to fish at the mouth of the river?—A. Yes; the majority of us white men go out, though many contend that as many fish are caught up the river as down at the mouth.

Q. How many meshes deep is your net?—A. Sometimes thirty to forty meshes for sockeyes, for spring and cohoes we use deeper.

Q. The fish swim deeper?—A. Yes; they swim deeper.

Q. Do you think you keep many fish out by putting your nets at the mouth of the river, do you frighten them off?—A. No, sir; the fish have every opportunity to get up.

Q. Do you think that fish finding net after net in their way would go away?—A. Well, no; anyway that is not what they find at the mouth of the Fraser, there is plenty of room for them to pass up. Some years ago a boat coming from China struck a lot of fish 300 miles away which it was supposed had been stopped going into the Columbia River, but there the nets are ever so much thicker, you could walk from cork-line to cork-line.

By Mr. Wilmot:

Q. This you say is at the mouth of the Columbia?—A. Yes, sir; others here could tell you the same and it is quite likely they would stop the fish to a very great extent. It is often supposed that the fish after trying vainly to get in, get disgusted and go away, and are thus deflected from their proper river.

Q. Yes; it must have a bad effect in that way. Well, have you anything further to say?—A. No, sir; I don't think I have anything further.

THOMAS SHEAVES, a native of Newfoundland, a fisherman, and resident of New Westminster for five years, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, have you any statement to present to us?—A. I have been fishing for three years on this river; about eight months in each year.

Q. Had you a license?—A. No, sir.

Q. Why?—A. Well, older fishermen were given the first chance.

Q. And you fished for other people?—A. Yes.

Q. On shares?—A. Yes; in the spring of the year.

Q. What other way did you fish?—A. Well, I bought my own net and fished on shares for the license.

Q. What was the license fee?—A. $5.

Q. You have been fishing for the canneries?—A. Yes, last year. I made an agreement, but I had my own boat.

Q. The person you fished with had got a boat from the cannerymen?—A. No; he got a license direct from the office.

Q. You want to get a license yourself?—A. Yes, sir.

Q. Well, would you not want some one to help you?—Yes, sir.

Q. Should there be a limitation on the number of licenses issued on the river?—A. No.

By Mr. Armstrong:

Q. If every fisherman had a license, would it not be necessary for them to hire a man to help them?—A. Yes; but not necessary that that help should be a fisherman—any one can pull a boat.

By Mr. Wilmot:

Q. What about the licenses for the canneries?—A. I think they should be limited.

Q. Could you say what number would be necessary for an ordinary cannery?—A. I could not say.

Q. Well, what do you think about the disposal of this offal in the river, do you think it injurious?—A. Well, I have been drinking water here for eight years and have felt no injury. I do not think it injurious either to fish or man.

Q. Does it get in your net?—A. A very little.

Q. Where do you fish?—A. Near the mouth of the river.

Q. How about the Sunday close time—do you think that correct?—A. It suits me all right, and I think it correct as at present.

Q. Your principal complaint is, then, that you cannot get a license, though you applied for one?—A. Yes, sir; I think I should get one. I have nothing further to say.

JOHN STEVENS, a native of Greece, though now a British subject, a fisherman, and resident of New Westminster since 1882, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, what is your special complaint?—A. I have had a license for six years past, but I want to see justice for the fishermen. The last three years the canneries have had control and fishermen have had no rights at all.

Q. How do you make that out?—A. Because few fishermen are enabled to dispose of fish, because the canners get all they want with their own licenses, and I think the canners should get a less number of licenses and the fishermen more.

Q. Well, but how does that affect you if you have a license?—A. Well, my friends have applied for licenses and could not get any, and I think they should be able to get them. The markets, freezers and salters have too many licenses and don't use them themselves. If I get a license I use my own boat and license, but these people are different, they let out their license and buy fish at just what figures they like. Mr. Port gave 3 cents a fish and then sold them to Mr. Ewen—he didn't freeze any fish at all.

Q. Have you any ideas as to the effects of the offal?—A. I think it has a bad effect upon the health of people. I don't think there is a man upon the river who drinks water that does not think it injurious.

Q. Do you think it is injurious to the passage of fish?—A. Well, I think in salt water it stops them from coming in, for if you throw a dead herring where herring are the herring will go away.

By Mr. Higgins:

Q. What is the difference between fish that are dead or have died in great numbers and the offal that is thrown in, both are equally bad, are they not?—A. Well, the only thing I know is that the water is bad—my wife had typhoid fever last year.

Q. Had you a doctor attending here?—A. Yes; I had afterwards a doctor from Vancouver—you see at first there was no doctor near and it was four or five days before I got one from Vancouver.

Q. Did he give any opinion as to the cause of the fever?—A. Yes; he said drinking the water was the cause of it.

By Mr. Armstrong:

Q. Where do you live?—A. I live on a scow.

By Mr. Wilmot:

Q. Do many fishermen live on scows?—A. Yes; most of them live on scows on the river. There are about fifteen or twenty scows near Ladner's Landing—here there are twelve or fifteen.

Q. Do you not think that way of living is injurious to health?—A. I don't think so.

Mr. Armstrong.—Well, I wonder you are not all dead—living in that way and drinking that water!

By Mr. Wilmot:

Q. What do you think of the close season—the Sunday close time when fishing is prohibited?—A. I think it all right. I would rather commence on Monday morning than on Sunday night.

Q. But you see the canners say they want fish for Monday morning?—A. Yes; of course, that is the reason.

Q. Do you ever get offal in your net?—A. Yes; I have got heads and guts and tails in my net when fishing at Canoe Pass, but not when fishing in the main river. I have got sixty or a hundred heads in one net many times.

Q. Have you seen any dead fish floating down the river?—A. Well, it is very seldom—you see them sometimes.

Q. Have you seen sockeye red going out of the river?—A. Yes, sir.

Q. In what season was that?—A. In September.

Q. Have they done spawning then?—A. I have caught them with spawn in their bodies at that time.

Q. Did they look as if they were hurt?—A. No; just red.

Q. What about the white salmon, have you caught them?—A. I have caught quite a lot in the month of August.

Q. What is done with them?—A. Most fishermen salt them down or sell them to the Indians—we cannot do much of anything with them.

By Mr. Higgins:

Q. Are they not a better fish than the sockeye?—A. Yes; they are, but we can get no market to speak of for them.

By Mr. Wilmot:

Q. Are any being caught now?—A. No, not now; they are not caught in the spring.

Q. When do you catch them?—A. Generally in August.

Q. Yes; well, I think, sir, we have gone over most of the questions on our list—have you anything further to say to us?—A. No, sir, nothing further.

The Commission adjourned at 10.30 p.m., to meet on Monday, 22nd February, 1892, at 10 a.m.

New Westminster, B.C., 22nd February, 1892.

Third Day's Session.

The Commission assembled in the Court-house at 10 a.m.

Present:—Mr. S. Wilmot, presiding; Mr. Sheriff Armstrong, (Mr. Higgins had left for Victoria the day previous) and Mr. C. F. Winter, secretary.

The Chairman called the Commission to order, and invited any person present desirous of giving evidence to come forward; whereupon

DAVID MELVILLE, a native of Scotland, a fisherman and resident of New Westminster for three years, was duly sworn.

By Mr. Wilmot:

Q. Have you anything to lay before the Commission or would you prefer that we should ask you questions?—A. Well, gentlemen, what I wanted to say was that I have been three or four years in the country and have tried three or four times to get a license but have never got one.

Q. What was the reason given you?—A. I was told I could not get one, the licenses were all given out, and that I was a new-comer.

Q. Do you know of any persons who have got licenses since you came to the country?—A. Yes, I know of parties who got licenses since I was refused and who came in at the same time I did.

Q. What are the names?—A. George Harkness is one—(after a pause) I know of no others.

Q. He came into the country after you, did he?—A. No, at the same time, but he did not apply for a license until after I was refused.

Q. What year was that?—A. In '90. I applied in '89 and in '90, and in '91, and he got a license after I made application.

Q. Well, sir, what further have you to say?—A. There are lots of men about the canneries who have licenses but don't fish them—they work in the canneries.

Q. Who fishes under their licenses?—A. They hire them out and are paid 12 cents, and they pay 8 cents to the persons hiring them—that is for the fish they catch.

Q. Are you satisfied that a man who has a license and fishes it himself would get 20 cents for his fish?—A. Yes, he would.

Q. Or would two men fishing on shares—would they get 20 cents?—A. Yes, last year I got 20 cents. We got 20 in some places, at some places 15, and some places 12½—we got 20 cents from Ewen & Co., and 12½ from the syndicate, but I had to buy my license.

Q. What do you give for a license?—A. $20.

Q. Then you were actually as well off as if you had a license of your own?—A. Yes, last year, but not the year before.

Q. Do you think it beneficial to fishermen and the canneries that licenses should be bartered and sold?—A. No, I think that the men who get the licenses should do the actual fishing, and be actual fishermen.

Q. Have you any other special complaint?—A. Yes, about the freezers, who get licenses but don't use them.

Q. What do they do with them?—A. They sell them to the canneries. Mr. Port had ten and he sold them to the canneries—he didn't fish them himself—he paid 8 cents while he was getting 12 cents for the fish.

Q. Did Mr. Port do any freezing last year?—A. Port is no freezer.

Q. What is his business, then?—A. He ships some fish fresh in the spring, and sells to the canners in the summer.

Q. Does this matter you refer to about not freezing fish refer to last year?—A. He froze fish the year before last, but he threw them away.

Q. Why did he do that?—A, They were not properly frozen.

Q. How many were thrown away?—A. Some 500 or 600.

Q. Were they all, too, fish that had been caught that season?—A. Yes, they were sockeye salmon.

Q. With your knowledge of the freezing business, how many boats with ordinary fishermen do you think it would take to supply that freezer?—A. The way they use them two boats would be too many, one boat would be enough.

Q. To supply a freezer of the magnitude of Mr. Port's?—A. Well, a boat will catch say 500 salmon.

Q. But the freezer's capacity might be 5,000?—A. Yes, but he has no freezer at all.

Q. Have you any other special remarks to make?—A. Well, there are some Japanese who have got licenses.

Q. In what year?—A. In '89, I think.

Q. Any since?—A. No, not to my knowledge.

Q. Was this after you applied for license?—A. No, they got them the same year.

Q. Do you know these Japanese—had they worked in a cannery for a long time?—A. I don't know.

Q. Then it is a custom is it, which prevails considerably that people get licenses from the Government officer, but do not use them and sell them to others for profit?—A. Yes, sir.

Q. And some are not fishermen at all?—A. Not at all.

Q. Now, as regards the offal, what do you think of its effects from going into the river?—A. I think it has a bad effect on other rivers.

Q. Do you know that the offal all goes into the river?—A. Yes, it all goes into the river.

Q. What effect do you think that has as regards fish?—A. I think it must have a bad effect on the fish.

Q. And what effect has it on the human family?—A. It must be as bad for man as for the fish.

Q. Do you know of any cases of sickness resulting from drinking the river water?—A. Yes, I do know of some.

Q. What disease did the parties have, do you know?—A. Yes; typhoid fever.

Q. The persons having this fever—were they immediate residents?—A. Yes, they were fishing at the mouth of the river.

Q. Were there more than one case?—A. I know of one—he is a partner of mine.

Q. Did he recover?—A. Yes.

Q. Do you know of any others?—A. No, I have heard of others, but I don't know.

By Mr. Armstrong:

Q. How do you know that drinking the water was the cause?—A. Well, it got the blame of it anyway.

By Mr. Wilmot:

Q. Is there an impression amongst the fishermen that the water causes sickness?—A. Yes, that is the impression.

Q. Do you know of this offal being used in any way upon the soil—as manure or guano?—A. It is used for oil down the river.

Q. How far down the river?—A. About nine miles down.

Q. How do they get the offal?—A. It is taken there in scows.

Q. Is it an expensive method, do you think?—A. No; I think not. The scow is shoved under the cannery, the offal falls in and then the steamer takes it away.

Q. Is this done largely or generally, do you know?—A. Well, an addition to the factory was made last year, and they are going to build another.

Q. Then the business is improving?—A. Yes.

Q. Would that factory consume all the offal?—A. It would take but two canneries to supply the present factory now.

By Mr. Armstrong:

Q. Two to supply it all the time?—A. Well, I don't know that it would—two would supply it in the sockeye run.

By Mr. Wilmot:

Q. How many scows were there employed in taking the offal from the canneries to the factory?—A. Six scows.

By Mr. Armstrong:

Q. How many barrels of oil were made last summer, can you tell us?—A. No; I don't know that.

Q. Do you know what disposition they made of the offal from the oil factory?—A. No; I don't know. I never saw them throw it in the river.

By Mr. Wilmot:

Q. Do you ever use it on the land?—A. No.

Q. How many men are there engaged in this oil factory?—A. Three.

Q. And how many men are there engaged on the scows?—A. There are two men on the steam-boat; they will manage the scows too.

Q. Are these scows and steam-boats kept occupied all day doing this work?—A. No; just a short time each day.

Q. What distance was the farthest away cannery from the oil factory?—A. About one and a half to two miles.

By Mr. Armstrong:

Q. Who empties the scows at the factory?—A. The factory men do that.

By Mr. Wilmot:

Q. What class of men are these that are engaged on the scows?—A. Well, it is a Frenchman that has the factory down there, and he employs French labour.

Q. Have you any idea as to their wages?—A. No; but I think they get about the same as what fishermen make.

Q. What do the fishermen make?—A. Boatmen get $2 a day; netters get $2.25.

By Mr. Armstrong:

Q. Are there many white men employed in fishing?—A. Oh, about 100 or 200 altogether.

By Mr. Wilmot:

Q. Then the business you seek is to get a license and then hire a man to help you, is that it?—A. Yes.

Q. Do the canneries employ many white men?—A. No; they get Siwashes and Klootchies; inside it is squaws and Chinamen; only about five or six would be white men out of about 100 altogether. The most I have seen in a cannery is 120 or 130; I was one year in a cannery.

Q. How many white men do you say out of this number?—A. Six; all the rest are Chinamen and Klootchies.

Q. Have you any idea of the daily pay of a squaw or "Klootchie," as you call them out there?—A. About $1 a day.

Q. And what do the Chinamen get?—A. Well, some are hired by contract; you see a boss Chinamen takes a contract to put the fish up in the cans, and he employs others; they get about 48 cents a case, or about 1 cent a can.

By Mr. Armstrong:

Q. What labour does this include?—A. Everything; they make the cans, clean the fish, put them in the tins, put on the labels, and in fact do nearly all the inside work connected with the fish.

By Mr. Wilmot:

Q. Do the Chinamen do the more important work with the retorts?—A. No; a white man does that.

Q. The boss Chinaman does not furnish the labels, does he?—A. No.

Q. Nor he does not furnish the boxes?—A. No; but he puts them into the boxes ready to go away.

Q. What do you consider the average weight of the sockeye running in the river?—A. From six to eight pounds; seven would, I think, be a good average.

Q. Have you seen the process of cutting up the fish in the canneries?—A. Yes.

Q. Are the heads and tails cut off?—A. Yes.

Q. How many cans would a seven pound fish make?—A. About five.

Q. Then the rest would be offal?—A. Yes.

Q. During the season of a big run of fish will they make more cans to the fish or less?—A. They will make less; they then take more off the head and tail.

Q. When fish are scarcer they will make more cans and less offal then?—A. Yes.

By Mr. Armstrong:

Q. I think you said the canneries ought to have a certain number of licenses each?—A. Yes.

Q. A small number?—A. Yes; about four or five each.

Q. You think every *bonâ fide* fisherman who applies should get a license?—A. Yes, if he does not hire it out—he should fish himself.

By Mr. Wilmot:

Q. Would you give licenses to all?—A. Yes; all British subjects and residents of the country.

Q. Have you any knowledge of the effects of saw-dust in a river?—A. No; I don't see much of it—I don't know much about that.

Q. There are quite a number of extensive mills near here, are there not?—A. Yes, but they have burners; they don't throw their saw-dust into the river.

Q. But are there any small rivers running into the Fraser on which saw-mills are?—A. I don't know.

Q. Then altogether you think the canners should get four or five licenses and every British subject and fisherman should get one?—Yes.

Q. What do you think about the close season for the preservation of fish?—A. I think fishing could be done up to Saturday at noon, but Sunday should be kept as a day of rest for the fishermen; we could start at 12 o'clock midnight.

Q. What about an annual close season—were you a fisherman in Scotland?—A. I was.

Q. Did you fish there on Sunday?—A. No; not at all.

Q. There are no canning establishments there though?—A. No.

Q. Well, what do you think of an annual close season?—A. I think the fish are all up by the time fishing is done here.

Q. Do you think the fish are all up in October?—A. Yes.

Q. What is it they are fishing for then?—A. For cohoes, but we don't count them.

Q. Have you seen many dead salmon floating down the river?—A. Not many—I have seen some.

Q. What kind were they?—A. I have never seen spring salmon—I have seen sockeyes but not in very great numbers.

Q. Have you ever seen any going down from the beds?—A. Oh, I have seen one or two, but not in great numbers.

Q. Have you seen any going down with spawn in them?—A. I have seen them in August with spawn.

Q. Do you think they all die after spawning?—A. No; I have caught them at the mouth of the river after they have spawned.

Q. What state were they in then?—A. Lean, weak, emaciated fish.

Q. It is the same elsewhere. Take places in Scotland and you will see the same thing after the spawning season?—A. Yes; lots die on the spawning beds in England. I have seen hundreds going down in the spring of the year afterwards.

Q. I am asking these questions because the opinion prevails in this province that fish all die, and my object is to endeavour to find out if this is correct, because I consider it quite contrary to nature. Do you know anything about young fish, parrs and smolts?—A. I never heard of them here—I have in the old country.

Q. What is a parr?—A. A young salmon.

Q. And a smolt and grilse?—A. Still larger salmon.

Q. Have you ever seen any parrs, smolts, or grilse coming down this river?—A. Well, the sockeye is the same as the grilse in the old country.

Q. What as—in size and weight?—A. Yes; in everything.

Q. Then grilse in Scotland weigh from six to seven pounds?—A. Yes; you get them up to ten pounds. They are young salmon and the first may be coming up to spawn—the next year they are salmon.

By Mr. Armstrong:

Q. Then the sockeye you think is the same species of salmon?—A. Yes; they look the same salmon. I don't think there is any difference between spring and sockeye salmon, except one is larger than the other.

By Mr. Wilmot:

Q. And you think the sockeye the grilse or young of the larger salmon?—A. Well, it looks like it.

Q. Have you ever heard in Scotland that the grilse are finer fish than the full-grown salmon of the same species?—A. I have not heard that—the meat is the same.

Q. If a three pound grilse what would it be?—A. Well, it would not have reached maturity.

Q. How do you distinguish parrs from smolts?—A. By the spots on the body.

Q. And when bars cross the body transversely, what do you call it then?—A. It is salmon then, or rather a parr.

Q. Have you ever seen these grilse here?—A. No, sir.

Q. Are smolts found in Scotland at the mouths of rivers?—A. Yes; they work down river and stay in the estuary awhile and then go to sea.

Q. Do you think this would apply to this country if it was looked into?—A. Yes; it might.

Q. And if small-meshed seines were used at the mouths of rivers these fish would be caught and it would be very destructive, would it not?—A. Yes, of course, if too many fish were killed.

Q. Then you have a sort of idea that the sockeye might be as the grilse is towards the larger salmon?—A. Well, it looks like that—it resembles the salmon anyway.

Q. Can you discern the male from the female in catching sockeye, before cleaning them?—A, Yes; you can tell by the heads.

Q. The male's is more elongated?—A. Yes.

Q. Have you ever seen any some distance up river when far advanced in spawning? A. No; but they have a big hook on the nose which they have not when they come in first.

Q. And this hook; on which fish is it?—A. On the male.

Q. Is the hook on when he is in?—A. No.

Q. Is there any remarkable difference takes place in the female from the time she comes in until she has spawned?—A. No; there is no change.

Q. In regard to the spring salmon, do the same appearances show on them?—A. In the fall of the year the male has a large hook on his jaw.

Q. Is it the same in Scotland?—A. Yes; it is the same all over.

Q. There is an identity between the salmon in both Scotland and the Fraser?—A. Yes.

Q. There is another fish here, the steel-head, what are they?—A. Well, we have some in Scotland—they are called bull trout—they are in the Tay and Tweed.

Q. What distinguishing marks are there between the trout and the salmon in Scotland?—A. Well, they have straight tail, straight up and down—the salmon is forked in the tail—the head is larger here in the steel-head.

Q. Do bull trout in Scotland grow as large as salmon, and do steel-heads grow as large as salmon here?—A. About the same.

Q. Then there is a great identity between the steel-head and the bull trout of Scotland?—A. Yes.

Q. Well, I must say sir, with very much pleasure, that your views as regards fish and fish-life are identical with those of the most learned persons everywhere on the subject. Now, with regard to the next run of fish after the sockeyes, you have what are called humpbacks; what do you think of them?—A. Well, I don't know, I never saw them before.

Q. Why are they called "humpbacks"?—A. Because there is a hump on the male's back.

Q. Is this hump seen on him at sea, as well as in the rivers?—A. Yes; I have caught them so.

Q. Well, you must remember that Atlantic and Scottish salmon come in without a hook on their snouts and that they afterwards get them—do you not think it possible that the humpback at sea may not have the hump on him, but when in the river it grows upon him and distinguishes the male from the female?—A. Well, it might, but I cannot say about that.

Q. What about the cohoes—they come later again, don't they?—A. Yes, sir; they are spotted something similar to spring salmon, and are a good eating fish when red meated and fit for canning.

Q. Is it canned?—A. No; it is not needed because they get plenty of sockeyes—but if the sockeyes are scarce they would can them.

Q. If cohoes or humpbacks are caught in the nets for catching sockeyes, what is done with them?—A. The cohoes are canned, but the humpbacks are given away to the Siwashes.

Q. Then the spring salmon which are first caught are all alike in colour of meat, are they?—A. Well, no; not altogether—some are white but not many.

Q. Are there more white than red in the after part of the season?—A. Yes.

Q. Are these white and red salmon distinguished by any marks that you can tell them by when taking them from the net?—A. No; you must cut them open before you know.

Q. Are numbers of white salmon thrown away?—A. Yes; some are thrown away, some are salted.

Q. Are they as good fish to eat as the red?—A. I don't think so.

Q. Where do you fish—at the mouth of the river or the upper part?—A. In the sockeye season I go down to the mouth of the river.

Q. About Gurry Bush?—A. Yes; and away outside.

Q. How far outside?—A. Sometimes out to the lighthouse.

Q. About four miles out?—A. Yes.

Q. How wide is it across the river from Gurry Bush?—A. About three-quarters of a mile.

Q. At what tide?—A. At low water.

Q. Does it get wider farther out?—A. Yes; but about a quarter of a mile out the water gets narrower.

Q. It is better fishing from Gurry Bush out?—A. Oh well, all about there is about the same.

Q. Are the fish congregated in the pass beyond Gurry Bush?—A. Yes; at low water.

By Mr. Armstrong:

Q. You say you go out four miles?—A. Yes.

By Mr. Wilmot:

Q. What is the object in going out there?—A. Well, because the fish are easier caught there.

Q. Would it not be as beneficial if the fish were allowed to come up?—A. Well, it would be, but you have to go out to get clear of the other fishermen.

Q. What mesh do you use from Gurry Bush out?—A. Forty and thirty meshes deep.

Q. And in the river farther up?—A. Fifty and sixty meshes—the water is deeper inside.

Q. With a thirty mesh net when being swept to get fish, will the lead lines nearly touch bottom?—A. Yes; they very nearly touch the bottom.

Q. Then when fish are coming along, with 150 fathoms of net in length and thirty meshes deep, it would sweep all along both top and bottom?—A. Yes; but there is lots of room for the fish to get in for all that.

Q. But would not there be lots of other boats and would not the nets almost form a fence across?—A. Yes; virtually they would.

Q. In your experience and with your knowledge of netting, do you find the fish strike the upper or the lower parts of the net?—A. Oh, they strike it everywhere. The most are caught about the centre.

Q. Then if a net was twenty meshes instead of thirty, more fish would escape, would they not?—A. Yes; for there would be no net to hold them—certainly more would escape, but when a fishermen is fishing he wants to catch fish.

Mr. Armstrong here showed witness a map of the mouth of the river and channel and asked him if the channel was filled up with nets?—A. No.

By Mr. Wilmot:

Q. How many boats have you seen at one time fishing out beyond Gurry Bush towards the lighthouse?—A. Oh, about 300.

Q. The fishermen go there in preference because the fish are easier taken is that it?—A. Well, no; we go there to get clear of one another.

Q. But is it not because you would catch more fish there than you would up the river?—A. I never fished up the river.

Q. What number of fish is your average catch a day?—A. About 900 in a big run. The average would be about 400 or 500, speaking generally.

Q. What would be your gross catch in a season?—A. I have caught 12,000.

Q. What do you get each for them?—A. Six cents; the owner of the boat gets four—ten cents in all for each salmon.

Q. What was the marketable value of the fish?—A. Ten cents. Canners have paid twenty—they paid twenty last year.

Q. Do you think the great number of nets at the mouth of the river would have the tendency to prevent fish from making their regular migration up river?—A. If you catch them there they cannot go on up the river, that is certain.

Q. Do you think a lot of boats and nets at the mouth of a river would turn fish away?—A. No, sir; nothing would prevent the salmon from going up when he comes for that purpose, except the catching of them.

Q. Do you ever get offal in your net down there?—A. Yes; heads and tails—sometimes lots of them.

Q. What condition would they be in—would they have a nice flavour? (Laughter.)—A. (Laughing) Yes; some of them were so.

Q. Do you get offal in considerable quantities?—A. Sometimes lots, and sometimes we don't get any.

Q. Is offal injurious to a net for taking fish?—A. I don't know.

Q. In Scottish rivers is not slime and refuse matter injurious?—A. Slime is, but no offal goes into the rivers there.

Q. Is not there slime here in the rivers?—A. Yes.

Q. Then slime and offal combined should be bad for the nets, should it not?—A. Yes; but the water is colder here.

Q. Do you paint your nets or colour them in any way?—A. We bark them here; they are mostly tarred in Scotland.

Q. And what twine do you use?—A. Oh, 8·40, about the same as in Scotland.

Q. Then the salmon net is the same as in Scotland as far as the twine is concerned?—A. Yes.

Q. And what mesh do you use?—A. Six inch mesh.

Q. And what in Scotland?—A. Three and a half for seine and six for drift net—extension measure.

Q. You state that you have caught salmon that have been spawned out?—A. Yes; I caught them down the river.

Q. Are you sure they were spawned before you caught them?—A. Yes.

Q. When?—In August, in the latter part.

Q. You are quite sure they had spawned?—A. Yes; quite sure.

That will do. I may state to you, sir, that though your views may differ with those of many fishermen here, still they agree with the views of the best authorities generally as to the habits, &c., of salmon.

Mr. Peter Burrill here rose in the audience, and addressing the Chair, accused Mr. Wilmot with putting questions to witnesses in such a way as to elicit certain answers, and protested against the continuance of such a practice. He was called to order by the Chairman, who also directed the secretary to erase from his note-book the remarks made by Mr. Burrill as they were offensive.

The Commission adjourned at 11.50 a.m., to meet in the Court-house, New Westminster, at 1 p.m.

Afternoon Session.

22nd February, 1892.

The Commission assembled at the Court-house, New Westminster, at 2 p.m. and proceeded to business.

Present:—Mr. S. Wilmot, in the chair; Mr. Sheriff Armstrong, Mr. C. F. Winter, secretary.

Dr. H. M. COOPER, of New Westminster, a medical practitioner and resident of New Westminster for nine years, stated his desire to give evidence, and was duly sworn.

By Mr. Wilmot:

Q. Well, sir, we are prepared to hear your statement?—A. I wish to give some evidence regarding the effects of this offal in the river. I have been requested by parties interested to come and give evidence in this regard. The offal, I think, does not, when thrown into running water or cold water, have any effect upon the health of the community along the river or watercourses, and it is by no means the cause of the serious fevers which are along there, for they come from another source altogether and not from decaying animal matter, but from the upper surface of the soil and subsoil of the country—vegetable decomposition. Even the excreta from towns where there are diseases is purified almost as soon as it reaches the river, that is a flowing river. That is according to all the latest investigators on the subject. The German investigation on the subject found that what they called the pathyogenic (?), germs that is the origins of disease, when put into river water soon lost their power and disappeared, and they also investigated in regard to the typhoid bacillus and the *cojus vibrio* (?)—animal matter—and found that although they were capable of development in sterile water, they could be kept in that for some time, but disappeared rapidly on being put into river water.

Q. This is from other authorities, not your own, doctor?—A. Yes, from Cross—"German Commission for Investigation," and is this: "It thus appears that the bacteria of water alone, that is what belongs to all water, have certain power of their own, and that they will destroy outside organisms in running water in a given time."

Q. That is, that water has a tendency to cleanse itself?—Yes; of anything that may be brought into it—that is the function of running water. I know this for a fact from my own experience. Now take the Susquehanna River—we found in Plymouth and Kingston and places where the water was kept in reservoirs, the people had fever, while in towns where the people took the water from the running river they had no fever.

Q. But would the pollution resulting from excreta be more injurious than that from offal?—A. Oh, yes; for instance, take meat—it may be eaten in a partially decaying state and yet not produce disease. Taking animal matter in itself does not produce disease. People eat maggots in cheese, and then many English people leave their game until it is almost bitter before it is eaten.

Q. But would you, as a medical man, recommend that?—A. No.

Q. Would you advise it?—A. No; but it is a matter of taste.

Q. Is not meat more healthy when sound than when decomposed?—A. Yes, and fish is better.

By Mr. Armstrong:

Q. Meat decomposed—is it not poisonous?—A. No; there may be poisons in the meat, but the mere fact of decomposition does not make it poisonous.

By Mr. Wilmot:

Q. But does not its decomposing state draw to it such atmospheric parts as would create poisonous matter?—A. Perhaps in the first stages of decomposition. There are persons whom the finest lamb will poison almost dead.

Q. Small things are compared with large, *vice versa* large with small. A body of water with decomposing matter put in—would it be as healthy for man or beast?—A. If a running stream it would not be affected. If in cold running water it would not be affected.

Q. But any animal inhaling that water, or fish, inhales more or less putrid or decomposing matter, vegetable or animal—now would it not be affected?—A. I do not think that animals are affected in that way with it, because you will find them around among the worst decomposition that we can have; people who work among it have no more diseases than other people—butchers are as a rule, a healthy class, and they have no more sickness than people living in the cleanest habitations. Then you will find that scavengers in the big cities are around among filth and yet seem to be very healthy.

Q. Then our sanitary needs are no use?—A. Many of them are not.

Q. But if the air is contaminated it must be more or less injurious?—A. Yes, the air; but decomposing matter in itself is not injurious or deleterious to health—as a matter of fact vegetable life lives upon it.

Q. Is it not a fact that the higher orders of fish frequent the more pure and limpid water?—A. Oh, yes.

Q. Salmon frequent pure and limpid water?—A. Yes; they do not frequent any stagnant or impure water.

Q. Then as salmon are a fish whose habits prompt it to always enter more pure or limpid water than those waters that are contaminated, it must be more or less injurious?—A. Yes; if there are any poisonous or deleterious matters in there decomposing.

Q. But if any extraneous matters are thrown in, would it not affect them?—A. Well, it would be food for them.

Q. For the higher orders or the lower?—A. Oh, for the lower.

Q. But if anything is put in this pure and limpid water, would it not affect the quality of the water? If even slightly injurious to fish must it not be injurious to the human family, who are of a still much higher order in the scale of life?—A. Well, we don't know in what way it would affect them.

Q. Then, sir, your conclusion from your own personal knowledge, whether the depositing of offal into the Fraser River in such immense quantities as it is—seven or eight million pounds per annum—do you think it injurious to animal life?—A. I don't think so.

Q. Do you think it beneficial?—A. No; but I think it less injurious than it would be under any other circumstances.

Q. Taking a standard would you put it on the side of being more injurious or more beneficial?—A. I don't think it has any effect in running water.

Q. But if the water is coming backwards and forwards, what then?—A. It is always in motion.

Q. But if lodgments are made along the shore what is the effect?—A. If in warm water, or in water that is standing, it might be injurious.

Q. A large portion of the river—in bays and sloughs—would be water of that description, would it not?—A. Well, I don't think it would be injurious to the surrounding country; but if the people have to drink it, then it might be injurious.

Q. Then if persons are compelled to drink the water it might be injurious?—A. Yes; in shallow water.

Q. In regard to the occupation of fishermen whose residences are principally on scows along shallow waters—in drinking that water, they would come in contact with what would be injurious, would they not?—A. Well, most of them have to be out on the stream, but I find that these men do not suffer as much as those on the land.

Q. Then the people on land suffer more than the fishermen, do they?—A. Yes; but it does not come from the water—it is from the soil and the subsoil.

Q. Have you anything further you desire to state?—A. No; nothing more than that I was asked to give my opinion as to whether this offal going in the river was deleterious or not.

Q. Very well; have you any knowledge of the Ontario Department of Agriculture—would you think them a good authority? A good authority in connection with an opinion as to the effects of this offal?—A. Not unless they had a scientific investigation.

Q. But if the Department of Agriculture has certain medical men would not that make their authority good?—A. Yes; I think so.

Q. Have you read an article in the "Colonist" of last Saturday regarding fish and offal?—A. No; I don't think I have.

Q. I will just read portions of it to you. Have you ever heard of Professor James?—A. Yes; I have heard of him.

Q. Well, he was detailed to analyse certain portions of good salmon and herrings, as well as the offal from these fish—all from the province of British Columbia. These samples were sent to him and he seems to have devoted much time and attention to the matter as he gives a long and apparently careful analysis of them. I will just read his conclusions:—

"Conclusion: From the consideration of the whole question, I am of the opinion that the manufacture of the refuse into a fertilizer, is strongly to be recommended, because:

1st. It will thus utilize a by-product that otherwise is a total loss.

2nd. It will prevent the water from becoming contaminated.

3rd. Its proper management must tend towards a more healthful surrounding.

4th. Its return to the soils of the farm will partly offset the waste of our cities by sewerage carried to the lakes and rivers.

5th. If properly handled it will pay well.

From the great importance of this question to the health of the community, the welfare of the fishing industry, and the progress of agriculture, I have endeavoured to reply at this length."

Are these sound conclusions from a scientific man?—A. No, sir; the scientific men of France used theirs as fertilizers—they tried it—but their last instructions were to take it to the sea, for if left on the land the decomposing matters and substances go into the soil. I think where people make a mistake is that it will make a good fertilizer, because on land like we have here the innocent part will be left on the land, but the drainage, &c., will take the more dangerous parts away and carry it down to the rivers.

Q. But if utilized by being manufactured into something, would it not prevent waters from being contaminated into which it would otherwise be put?—A. Well, that would depend upon the conditions of sewage, &c., for I consider it would be far more injurious if left on the land than put in the water.

Q. But would it not tend to a more healthful surrounding, if utilized?—A. Well, perhaps it would; but I know in France they have ordered that it should not be so utilized. I don't think it would have any effect on the health of the community, no matter how much offal was thrown in. As to agriculture and fertilizers, I think the experience in France is a good guide.

Q. Do you belong to the Board of Health of New Westminster?—A. No, sir.

Q. Do you know that the Board of Health has petitioned about this?—A. Yes; but we also have other things that have been petitioned against.

Q. Are they a good authority?—A. Well, yes; they ought to be.

Q. Would not a Crofter immigration be useful to this country?—A. Yes; I think so.

Q. Well, I see that inducements have been offered for Crofters to come to this country, and one of the inducements is that they can catch plenty of fish, and a company is being formed to utilize the offal. In this connection, if you will permit, I will just read you a short extract from an article in the Victoria *Daily Times*, of the 21st February, 1892. The article touches upon the whole subject of the Crofter immigration scheme, and after explaining that the fish caught will be shipped in the cold storage system, &c., it goes on to say:—

"In addition to this it is understood the company will be prepared to cure fish by a variety of processes, extract fish oils, and manufacture fertilizers, &c., from the offal. So that all kinds of fish procurable will be utilized and there shall be no waste. The reader will at once perceive how these two branches of the scheme will work into each other, and the whole tend to the development of the deep-sea fisheries of the province, thus establishing a new industry, the possibilities of which are as boundless as 'our great sea farm.'"—A. I don't object to that at all.

Q. Well, with the above, and the Government stating that the offal of fish is unhealthy and hurts the water, it surely shows a tendency to prevent its going into the water?—A. There are a number of inducements held out in that way and it might induce parties to make money out of it, but what I am contending is that animal matter put in a river is not injurious, but if put on the soil then it becomes injurious, and when the water sinks down on our soil there is typhoid fever there, but when it rises such all goes away again.

Q. Then you do not agree with the views put forth by Professor James, nor with the Provincial authorities on the matter of the Crofters?—A. No; I think there are several remarks made there for the interest of parties and made to suit them. I will just read you a few extracts from "Keating, on the history of diseases." Dr. Cooper then read several extracts from "Keating's History of Diseases," vol. I., p. 444, relative to the origin of typhoid fever, the transmission of the typhus bacillus, &c.

Q. Have you formed your views, Dr. Cooper, from those books or from your own personal experience and knowledge?—A. Oh, from my own personal knowledge; I only used these books to show what they think in other countries.

Q. Then you disagree with the authorities of the whole civilized world who are trying to keep the rivers pure? Have you any further evidence you wish to give?—A. No; I simply wished to say that I believe no diseases come from offal in rivers; however, I would say that there is one thing that will prevent fish going up a river and that is saw-dust; that will prevent them from going up right enough.

Q. You are aware that saw-dust is thrown into the river and that it is injurious?—A. It is thrown in the inlet and on the sound, and I am sure it hurts the fish; I think the fish dislike contact with it.

Q. And if it settles on the bottom it will prevent vegetable growth, will it not?—A. Yes.

Q. And you think it injurious?—A. I am positive of that.

Q. Well, sir, is there anything further you would wish to urge?—A. No; I think I have stated what I wished to, namely, that I do not consider that the throwing of the offal into the river is injurious to health.

Mr. Wilmot.—Very well, sir, that will do.

EDWARD BONFIELD, a native of Ontario, and resident of New Westminster for five years, and a fisherman, was duly sworn. He had also been a fisherman on Lake Erie, in Ontario.

By Mr. Wilmot:

Q. Well, sir, what do you wish to state in connection with the Fraser River fisheries, or any of the other fisheries of British Columbia?—Well, I came here on the recommendation of an immigration agent, and through the circulation of pamphlets stating that fishermen were in great demand in this province. When I came here I found they were not at all in demand, in fact there was no demand. When I tried at the canneries for employment they told me they employed Siwashes. The next year there was a limit put upon the number of licenses. I applied for a license but could not get one. When I went to a cannery for a boat and net I was told again, "We intend to employ Siwashes this year and work at different schemes; we intend to put a double shift on and work day and night; we will employ men by day's work this year." The year before they had put most of the boats on a certain percentage of fish in payment. I managed to get employed by getting in that fall on an outside license. We were given to understand when these licenses were given out to individual fishermen that it was a sort of recompense for the rest of the licenses being given to the canners.

By Mr. Armstrong:

Q. Tell what you know yourself; we don't want what you understand.—A. Well, we read in the papers about it. The following year after that I applied for a license again. This is the fourth year I have applied, but so far have been unsuccessful.

By Mr. Wilmot :

Q. Have other persons who applied after you got licenses ?—A. They have.

Q. Do you know why ?—A. Well, either they got them through influence or friends.

Mr. Armstrong.—There you go again—you don't know that, you "think."

By Mr. Wilmot :

Q. Did any of these people tell you why ? Why they got their licenses in preference to you ?—A. No.

Q. You have been a fisherman, you say ?—A. I have.

Q. How do you work ?—A. Here I have been employed by the day, on shares, and in different ways.

Q. A share as a fishing boat was what ?—A. One-half.

Q. If you had a license of your own would you have double ?—A. No ; I would have to give another man one-half.

Q. What value do you get for fish—what per share ?—A. We get 5 cents each.

Q. Who owned the license ?—A. My partner owned the license ; he was one of those that applied since.

By Mr. Armstrong :

Q. Do you think the canneries should have a certain number of licenses each ?—A. Not an excessive number—they have too much of a monopoly of the business now. I don't see why they should have any.

By Mr. Wilmot :

Q. Why not ?—A. Because they can buy of the fishermen at reasonable rates.

Q. You say they have a monopoly now—suppose the canners had no licenses granted to them, could not the fishermen form a monopoly against the canners ?—A. No ; they have no other market for their fish—they are obliged to sell to the canneries.

By Mr. Armstrong :

Q. Do you think every fisherman who applied should get a license ?—A. No ; I think that would be detrimental to the best interests of the river.

Q. How many do you think should be issued ?—A. Well, the present number is very good—it is about as many as can be accommodated on the river without the fishermen getting in each other's way.

By Mr. Wilmot :

Q. Then you think five or six hundred quite ample for the capacity of the Fraser River ?—A. Yes.

By Mr. Armstrong :

Q. How many qualified white fishermen are there on the river ?—A. That I am unable to say.

Q. Do you think there are enough fishermen on the river now to do all the work necessary ?—A. I don't think so at present.

Q. Then how would the canneries be supplied if they got no licenses ?—A. There are Indians and others ; but if the white men could not do the work for the canneries, the balance of the licenses might go to the canners.

Q. Then you think, if licenses were given to all individual fishermen, the canneries would get abundance of fish for their canneries ?—A. I think so.

By Mr. Wilmot :

Q. And should it include all British subjects ?—A. Yes ; all British subjects who want them.

Q. What is your experience or views with regard to the offal being thrown into the river?—A. I think it injurious in a way.

Q. In what way?—A. It floats down and injures the nets—in some localities it is very nasty for the people on some of the sloughs. It is injurious in all other parts where I have been. I remember at Port Ryerse—a large fishery was carried on at Long Point and the offal was scattered over the land, with the result that an epidemic became prevalent and popular opinion placed it on the offal being thrown on the land as the real cause.

Q. Have you found the water offensive for use?—A. Well, not in the river—not to the taste.

Q. What other injury, then?—A. In washing up on the shore and lying on the land, especially in the sloughs.

Q. What do you think of the close season?—A. I think the close season as at present is of no use; it is principally for the sockeye salmon that it is carried out.

Q. I mean the Sunday close season?—A. Oh, I think that very beneficial to both fishermen and canners, as it gives them rest and allows them to clean up for Monday.

Q. What as to the fish?—A. It lets them get up and is beneficial.

Q. What as to an annual close season?—A. It is of very little use, in my opinion.

Q. Are the runs of fish in this river regular every year?—No, they are not, though they are more regular the last few years than they used to be.

Q. And do the runs seem better of late years?—A. Yes, they seem to be.

Q. Can you give any reason for that and the greater regularity of the runs?—A. Well, there may be some natural cause—for instance, high water comes up soon some years.

Q. Do you think there has been any artificial cause—do you think the hatchery has been any benefit?—A. Yes; it has been beneficial in other places, why not here?

Q. And do you think that more hatcheries should be started?—A. Yes; I think it would be better to have more.

Q. Where do you fish in the river?—A. Oh, I fish in all parts.

Q. Where do you get the best luck?—A. Well, from the Gurry Bush out is the best fishing place. The mouth of the river has generally been used because it allows better scope for the fishermen's boats.

Q. Then do you think 500 boats enough to sustain the fishery?—A. Yes; I think so. If there were any more they would be crowding each other.

Q. How many boats have you seen out beyond Gurry Bush?—A. Oh, from two to three hundred.

Q. Do you call the mouth of the river from Gurry Bush down to Pelly Point?—A. Well, I call the mouth of the river outside of Gurry Point, including the sand flats. There are several channels and some are accounted very good.

Q. What effect would it have on the river above Gurry Point up to New Westminster if fishing were not so largely carried on outside of Gurry Point?—A. I don't think it would make much difference.

Q. Don't you think more fish would come in?—A. Well, more might come in, but the boats would be so crowded they would be in each other's way.

Q. But if more fish come in would it not be beneficial? Would it not be beneficial to the river?—A. Well, yes, of course.

Q. What size of net do you use—that is, how deep?—A. Thirty, forty and fifty meshes.

Q. How many fish a day do you catch as a rule—say, during the last three years?—A. Oh, four or five hundred would be about the average.

Q. About how long do the sockeyes run?—A. About six weeks.

Q. Then you catch about twelve or thirteen thousand in a season?—A. No; I never caught as many as that. I never caught more than seven, eight, or ten thousand in a whole season. There is one thing I would like to say, and that is, that I believe it would be a very good thing if fishermen were allowed to catch sea trout.

Q. Are they not allowed to catch them now—I don't think trout fishing is forbidden by the law on the subject?—A. Well, I never could get any information about it.

Mr. WILMOT—(referring to the Fishery Regulations for British Columbia).—Well, here are the regulations regarding trout fishing—I will read you what it says :—

"Section 2. Trout Fisheries.—No one shall fish for, catch or kill trout from the 15th October to 15th March, both days inclusive, in each year : provided always that Indians may, at any time, catch or kill trout for their own use, but not for the purpose of sale or traffic."

This would, however, I presume, be subject to the first section of the regulations for the province, for the capture of these fish, for section one says :—

"Fishing by means of nets or other apparatus, without leases or licenses from the Minister of Marine and Fisheries, is prohibited in all waters of British Columbia."

—A. But I mean sea trout. They have the same habits as salmon.

Q. Well, but these sea trout, as you call them, are like the young salmon—only that the one remains in salt water while the other is in fresh water. Fishing is prohibited from the 15th October to the 15th March. Well, sir, is there anything further you desire to state?—A. No, sir, I think not.

MURDOCH McLAUCHLIN, a native of Scotland, a fisherman, and resident of New Westminster for two years, was duly sworn.

By Mr. Wilmot:

Q. I notice that a great many of you who come forward give in your occupation as fishermen, but will not that be only for a short time?—A. Well, if you have a license you can make it last all the year round. I have been a fisherman all my life and was a fisherman in Scotland before coming here.

Q. Have you anything to suggest upon the questions before this Commission?—A. Well, about these cannery licenses—the licenses that were granted last year to new canneries, but no fish were put up, while the licenses were used.

Q. Do you know the number of licenses that were used?—A. I don't know the number, but I know the canneries—Mr. Ewen's, Mr. Laidlaw's, Mr. Wadham's and Mr. English's, all new canneries last year, but they never canned a fish in any one of them—two of them I don't think have the smoke-stack on them yet since the sockeye run was over.

Q. These buildings—are they good, sound, substantial buildings?—A. No ; I don't think so—they were put up in my estimation simply to get licenses. I have no doubt there would have been canning in Mr. Ewen's only that there was so many fish last year and he put all his up in his old cannery. Also, the people who hold licenses to salt and freeze, they sell their fish to the canneries in the sockeye season—they use their licenses in the spring fishing, but sell their fish to the canneries in the summer. We don't think this is fair at all, because to a man with ten licenses it is worth $10,000 to lay aside in the house and do nothing else.

Q. Why do you not think it fair?—A. Because they get licenses and fishermen cannot get licenses—we came to this country purposely to fish—we are real, actual fishermen, and yet we find we cannot get leave to fish—we certainly think it very unfair.

Q. What induced you to come to this country?—A. Why there were pamphlets distributed all around our place at home stating that this was a great country for fishing, farming, &c.

Q. Have you tried farming?—A. No ; that is not in my line—fishing is my line. I was brought up a fisherman.

Q. You have fished, though, here, have you?—A. Yes ; for Mr. Ewen.

Q. Did he furnish you with boats and tackle?—A. Yes.

Q. What remuneration did you get per day or did you fish on shares?—A. We fished on shares.

Q. How much did you get?—A. Five cents. The syndicate only gave 12½, Wadham gave 15 and Mr. Ewen gave 20.

Q. And you got five?—A. Yes; of course the other man in the boat got five, too.
Q. Then the price paid was 10 cents a fish?

By Mr. Armstrong:

Q. And the other 10 cents went for the boat and net?—A. Yes.
Q. And do you think you could do better if you had a license—would you not have to get a boat and net?—A. Oh, that does not mean so much.

By Mr. Wilmot:

Q. How many fish did you catch?—A. 5,000.

By Mr. Armstrong:

Q. How long were you fishing?—A. From the 9th of July to the close of the season on the 25th August.

By Mr. Wilmot;

Q. Does the proprietor of the cannery board you?—A. No; we board ourselves.
Q. Have you formed any opinions as to the effects of this offal—the effects of throwing it in the river in such immense quantities?—A. Yes; I think it injures the fish and also the men fishing in the river.
Q. Why do you think it injures the fish?—A. Because the offal gets rotten and the water cannot be pure. If it was slow water I don't think the salmon would come into the river at all.
Q. What effect do you think it has upon man?—A. Well, I don't know.
Q. Have you ever been affected?—A. Yes; I have had diarrhœa through it.
Q. And you attributed it to the water?—A. Yes; because I never had anything at all the matter with me until the sockeye season, and then I had to boil the water before using it.
Q. Does the offal affect the nets?—A. Yes; it rots them to a certain extent.
Q. How does it rot them?—A. The slime and stuff gets on the nets and rots them and makes lots of labour for us in cleaning them.
Q. Does it affect the people living along the river who drink the water?—A. Well, I cannot say that—I only know about myself, though fever was prevalent all along.
Q. Does the offal lodge in the bays, sloughs, &c.?—A. Yes; and when the tide goes out the stench is frightful.

By Mr. Armstrong:

Q. Do you think the canneries ought to have any licenses?—A. No, I don't think so—canning fish is one industry, and catching them is another.
Q. Do you think every fisherman who applies should have a license?—A. Yes.
Q. Are there fishermen enough on the river to do all that is necessary?—A. Yes, quite enough—give the licenses to the fishermen and the canneries would be as well supplied as they are now—it would be more expensive though, I suppose, for the canners.

By Mr. Wilmot:

Q. In what way?—A. Well, the way they fish now they pay two Indians who fish all day and then two others take the boat and fish all night and one gets $2.25 and the ather $2.50 in both shifts.
Q. Do you see many fish floating down the river dead?—A. Yes; a great many of them, principally sockeyes in the latter part of August.
Q. Are those fish that come down from the upper part of the river, or are they injured in the river?—A. I think they are fish that have been injured in the net. Many after getting in the net struggle and get out, but they are more or less injured.
Q. Do you think all fish that come up the river to spawn all die after spawning, or do they return to the sea?—A. Oh, they return to the sea.
Q. What evidence have you of that?—A. We have caught them down the river after they have spawned.

By Mr. Armstrong :

Q. What time in the year do you catch them ?—A. In the latter part of August.

By Mr. Wilmot :

Q. When do you knock off fishing ?—A. At the end of the sockeye season, the 25th August.

Q. Then you cannot say what quantity of fish that have been spent by spawning above—pass down the river ?—A. Well, the next month you see is closed—probably they all pass down in that month.

Q. Then you think it an error that all fish that come up die ?—A. Some die—many of them—but many return to the sea.

Q. You fish with the usual depth of net ?—A. Yes ; between 30 and 40 meshes outside the river and from 50 to 60 meshes inside.

Q. Is there any further matters you would like to represent to us ?—A. No, sir.

Mr. Wilmot.—Very well then—that will do, sir, thank you.

Mr. Wilmot.—I may mention, Mr. Armstrong and gentlemen, that it may be considered on the part of outsiders and on the part also of others here, that it is useless to ask the same questions from all parties that come before us ; but these are the matters at issue between the canners and the fishermen, and the department wishes to get all the information possible—that is the reason why I repeat the same questions so often to the different witnesses. It may be a matter that may cause parliamentary discussion and therefore the Government is anxious to get all the information possible. I speak in this way from my stand-point and view of the case, and I wish you will understand my reasons for doing this.

Mr. Armstrong.—Oh, yes ; I quite understand—that's all right.

Mr. J. E. LORD, of New Westminster :

I would say that this discrimination in license fees bears very harshly on fishermen. Why should we on the Fraser River be called upon to pay $20, while only $5 is paid for a license on the Skeena and other rivers ?

Mr. Wilmot.—When we adjourn from here we will hear from the people on the Skeena, I hope, and they may tell you very good reasons for paying only $5.

Mr. Lord.—But the tariff should be general ; does it cost more to control the fishermen on the Fraser River ?

Mr. Wilmot.—In my experience it does, sir.

Mr. Lord.—Well, I may call your attention to the fact that if trouble arose on the north-west coast it would take a man-of-war and hundreds of dollars, whereas you could manage things on the Fraser with a couple of policemen.

Mr. Armstrong.—I object, Mr. Chairman, to this man addressing you in this way, if he has nothing new ; he has spoken, and has been before us previously, and if he has no new points I think he should not be heard.

Mr. Lord.—Oh, well, I will sit down ; I merely wanted to show that I considered there was an unjust discrimination, that's all.

Mr. Wilmot.—Yes ; we cannot have persons addressing remarks from the audience

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JOHN PETERSON, a native of Sweden, a fisherman, and resident of New Westminster for eleven years, was sworn.

By Mr. Wilmot :

Q. Well, sir, what have you to state ?—A. My trouble is I cannot get a license.

Q. Had you a license before ?—Yes, I had a license before, but for three years now I have been unable to get them.

Q. Was any reason given for this?—A. Well, I went to the Skeena River, and when I came back here I could not get one.

Q. Were you told that?—A. Mr. Mowat told me all the licenses were out and that I could not get one.

Q. Since that you have been fishing in what way?—A. Fishing for the canneries on shares.

Q. In the same way as others who have been here?—A. Yes, sir; about the same.

Q. Do you think that all British subjects of the country who are fishermen actually should get a license if they want it?—A. Yes; in preference to all canners, fish dealers and freezers.

Q. Why would you debar canners and freezers?—A. Because they could buy all the fish they wanted from the fishermen without having licenses of their own.

Q. Would they have to pay more for their fish under these circumstances?—A. Yes; to a certain extent they would.

Q. And you think the fishermen would get more?—A. Yes; they would get more.

Q. And the canners would have to pay more?—A. Yes; because they could not hire Indians.

Q. Then you think one license sufficient for each fisherman?—A. Yes, sir; one boat, one man, one license.

Q. And the average number of fish taken by you—would it correspond with the evidence you have heard just before—400 fish to a boat, a day?—A. No, sir; my average was less; some years they are very numerous and some less.

Q. But take an average; say the last three years?—A. Oh, well, about 300 a day for the best part of the season.

Q. You got for those 10 cents each?—A. Yes, sir; but only one year out of three—in the other years we got a little less. Twenty cents for salmon has only been this last year.

Q. Well, persons fishing alongside of you, what prices would they get?—A. Some 12 to 15 and 20 cents a fish.

Q. What did they pay for fish other years?—A. I have fished for 5 cents and furnished my own boat and net. Ten cents was the highest for years, and 20 cents is the highest price known on this river.

By Mr. Armstrong:

Q. Then when fish were only 10 cents—when two of you were fishing you would only get 2½ cents each?—A. No; we got 6 cents—3 cents apiece, and the canner got 4 cents.

By Mr. Wilmot:

Q. What about the offal that is thrown in the river—do you think it injurious or otherwise?—A. I think so—I think it hurts the fish and the water and is unhealthy.

Q. What are your views as to the weekly close time?—A. I think it good till six o'clock Sunday.

Q. How do you view that from a moral standpoint?—A. Oh, I am not very religious myself—I consider Sunday over at six o'clock in the evening.

Q. Some people think it over at daylight in the morning?—A. Oh, well, they probably have a night view of the question.

Q. Do you think the fish are increasing or decreasing?—A. I think them as good as when I first came here.

Q. Do you think the hatchery has done any good?—A. Yes; I think it has been good.

Q. Have you been fishing at the mouth of the river?—A. Yes; during the sockeye run I have fished there.

By Mr. Armstrong:

Q. It is the easiest place to catch fish, it is not?—A. Well, there is more room for boats.

By Mr. Wilmot:

Q. The great majority of the fishing is done at the mouth of the river during the sockeye season, is it not?—A. Yes.

Q. Have you made any observations regarding the red and white salmon?—A. Yes, a little.

Q. Are both used in the markets?—A. No; canners don't use the white at all, and fish markets and freezers will not take them, unless they cannot help themselves.

Q. What is done with them?—A. Fishermen salt them a good deal but some may be thrown away. I would suggest about the freezers—they are holding ten licenses and they don't use them—they sell their fish to the canneries and don't put them in their freezers. I can prove this, and I think if the licenses they absorb were distributed among the actual fishermen it would be a great deal better.

Q. Then you consider it unfair that freezers should be given ten licenses and not use them but sell them to the canneries?—A. Yes, sir, I do.

Q. Is there anything further you would like to state?—A. No, sir.

PETER BIRRELL, a native of Scotland, but for thirty-two years a resident of British Columbia, a salmon canner and resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, have you any statement you desire to make?—A. Well, I would rather answer any questions you may wish to ask.

Q. Well, sir, one of the most important questions is this offal question—what are your views?—A. Well, I believe that it is not deleterious at all, neither to health, either of fish or human life, so long as it is deposited in the channel of the river.

Q. You think it not injurious?—A. From my observation I have not seen any ill effects, and I believe it is thoroughly impracticable to do away with it without materially affecting the industry. I have tried in a small way to burn some of it and took a day's work in the cannery to make the trial, and the one day was very offensive, but I did it with the object of using it as a fertilizer, but it was not good as a fertilizer—it killed some of my trees.

Q. You think it not injurious if put into the water, but injurious if put on the land?—A. Yes; without using proper judgment.

Q. Do you put up your views as against practical men and scientists of approved worth?—A. Well, I had some of that. So far as heads of fish are concerned and the men who have only a knowledge of fish on the east coast, they don't know much of our fish out here.

Q. Do you know it is a fact that offal is not allowed to go into the rivers in other places?—A. Well, I don't know it as a fact, but it is different from out here. This is a very large body of water and there is a strong current, and in the old country it is thickly inhabited, and it is very desirable to keep the water as pure as possible. As people do here I don't see where it has been offensive, except in the immediate vicinity of town. If there is no suitable place where discharged, the cannery takes it to places where the small fishes can feed on it. I am sure that the offal does not get but a few hundred feet from the cannery before all the offal is devoured by these small fish, and the heads and tails are devoured by the seals. At my cannery, and, I believe, near all the canneries, there are large numbers of sturgeon, and I know Indians go out with a line and get any numbers of them.

Q. Do seals come up to your cannery?—A. Oh, yes; the seals come right up the river.

Q. To any extent?—A. Well, not as much here as in some rivers on the coast, and they dispose of the larger offal—the heads and tails, because I have never heard of any heads being found down at the mouth of the river from any of the canneries.

Q. Then you don't believe the evidence given by persons here that they have taken heads and tails from their nets?—A. I don't believe it to be true, except in some cases where persons have been salting fish, and a good deal of offal is got in shallow water.

Q. You are engaged in the canning business?—A. I am engaged in the canning business.

Q. What cannery?—A. The British Columbia Packing Company.

Q. One of the syndicate?—A. Yes.

Q. Of what capacity is that cannery?—A. Well, I have put up 26,000 cases in one season.

Q. But the average, say for the last three years?—A. About 15,000 cases. The last three years, a little less than that.

Q. Is yours of the same capacity as others, excepting Mr. Ewen's?—A. Yes, excepting Mr. Ewen's. His is a little larger. Mine is about as the others.

Q. Well, the fish that are caught daily are brought in—the heads and tails are cut off—how are these disposed of?—A. It has been disposed of in this way. In the early years of the canning industry we just let it run into the water, and it was very deleterious when it became putrid and floated in to the sides of the river, but this year we have made arrangements to dispose of it in the channel of the river, and at my cannery, by adopting this mode, no one had been annoyed from offal from my place. The offal used to float there, but I have made provision for that, and no one can have a word to say from offensiveness or on account of the offal going there, for it does not interfere with anyone. Of course, where I am situated, there is no one but myself anyway, and it was offensive, only I made arrangements for disposing of it in this way.

Q. Your fish are caught, brought in and put in the cannery—their heads and tails cut off and entrails taken out, and the offal shoved into the water?—A. Yes; but we have deep water.

Q. Then if the offal falls down it does not fall into the channel of the river, does it?—A. Well, where my cannery is there are two channels.

Q. Do not canneries stand on piles?—A. Yes; most of them are.

Q. And are the piles numerous?—A. Yes; they are generally eight by ten, sufficient to hold up the building.

Q. And the offal is thrown down amongst these piles?—A. Generally, but they are making provision now to take it all into the current. Of course where there is no current it piles up, but in the channel it goes right off.

Q. Can you run a hopper out from your buildings to the channel?—A. Yes; in most of them, I believe.

Q. And you think it would be injurious in the shallow waters and where it could not get away, but if thrown in the channel it would not be injurious?—A. Quite so—I think so from long observation and experience.

Q. And do you build canneries in channels or deep water?—A. We always like to get them in a channel or deep water because steam-boats must load our fish, &c., and we must have plenty of water for the boats to come alongside, &c.

Q. During past years have you conveyed the offal in scows out to the deep water channel, or allowed it to run into the river?—A. This last year I have conveyed it by spouts and it was perfectly effective.

Q. Then the conclusion you come to is that offal is not injurious if put into the channel, and it is injurious if in shallow water?—A. Well, not to fish life—I don't think it is, because there are myriads of decomposed fish that come down the river—I don't think it injurious to fish life or any life.

Q. But I suppose you know corporate boards in towns always consider it a nuisance?—A. Well, I suppose so—you know a cannery is not an eau de cologne factory (laughter), and amongst people it is not well liked.

By Mr. Armstrong:

Q. Do you think any disposition could be made of that offal in any other way than by putting it in the river?—A. None other—you must put it in the river.

Q. Do you not think it might be made into oil and fertilizers?—A. Well, I have examined into that thoroughly. Mr. Lawson and Mr. McDavin have a good deal of money in an oil refinery at Vancouver, and have sunk a good deal of money getting all modern appliances for pressing out oil and drying refuse of fish for fertilizers. I met

them in New York and they asked me to investigate the thing, and I did so as far as I could. I made inquiry and got acquainted with most of the oil factories in Massachusetts. I told them conditions here were very different, and told them I did not think they could possibly make a success of it. I took some time and spent some days in looking up this drying process. There they use artificial heat for drying it, but the difference is, this fertilizer brings $33 a ton in England—it can be cured to ship across to England from the eastern sea-board, but it is impossible to cure it here to ship to England—the ship would have to be abandoned before it got to England. The people of the company even got the president, a Frenchman, to come out and I met him here and he thought they ought to succeed in doing it, but when they took into account the difference in climate and the distance to ship the product, they abandoned it. Then Joe Spratt took hold of it and they spent several thousands of dollars in it, but it all was given up. Joe Spratt put a good deal of money in it and he had to give it up, and what was the result? All the refuse had to be dumped into the water, and all that had the effect of poisoning the water at English Bay, and really I think that drove the herrings out of the inlet—I cannot say for certain, but I really believe that did;—of course Burrard's Inlet is a big difference to this river.

Q. Do you know the unfortunate way in which you cannerymen stand by the law? You know there is a law on the Statute-book of the Dominion that you are liable to fine every time you throw offal into the river. Now you know no Government, either Provincial or Dominion, has the right to say the law shall not be carried out. Now, any man can go before a magistrate and complain of it and have you fined for it every time?—A. Well, you would have to stop the industry. I quite understand that about the law, but this industry is a very important one and gives employment to many persons on this river.

Q. Well, you should take some steps to get this law repealed?—A. Well, we have taken steps, but the department has been very remiss in complying with the suggestions we made—that is our opinion out here.

Q. Well, I think the department has been very lenient as the law is. Here is the position you are in. Any man whom you may offend can go and have you fined every day you do it?—A. Well, it is a farce about the offal being an injury to the fish.

Q. Well, but there is the law?—A. We have been fighting to remedy the matter and have sent a delegation to Ottawa to have laws formulated to suit the industry and the welfare of all parties concerned. This delegation came back here and gave the balance of people engaged in the industry—gave us to understand that everything was going to be put all right, and that those gentlemen who conduct matters in the department were quite in accord with them in their opinion, but when the rules came out they were very different—they were ridiculous, and in fact we could not carry on our business. Then we went to our members and an Order in Council was passed rescinding it, and then we put offal in the river for our own comfort, and at a meeting the other day we agreed to make provision to put it in deep water.

Q. Of course the Governor in Council has power to make rules and regulations in reference to the fisheries, but the Governor in Council has no power to rescind the Act. They can make rules and regulations under the Act, and the Act says you may be fined?—A. Well, if Mr. Wilmot had remained here—when the telegram from the department came asking if it was convenient for him to come now, I was in Victoria. I said no, we could leave this thing till the fish were running and get Mr. Wilmot, for we know Mr. Wilmot is quite an authority on fish—eastern fish—and we could disabuse his mind on many points regarding our fish, but they wanted these rules made for the commencement of the fishing.

Mr. Armstrong.—But, Mr. Birrell, this Commission is not here to carry out Mr. Wilmot's views or my views—we are here to go upon the evidence.

By Mr. Wilmot:

Q. I believe I heard you say you have made arrangements to put the offal in the deep part of the river—why, did you not put it there before?—A. Yes; we have made arrangements to do it.

Q. Then you think it injurious otherwise?—A. I think it not injurious to fish life, but it is offensive to people in the immediate vicinity.

Q. But this was acknowledgment of canning people that offal was offensive and that by putting it out in the river you would overcome that offensiveness?—A. Quite so.

Q. You say your establishment employs many people?—A. Yes.

Q. How many are employed in your establishment?—A. About ninety.

Q. How many of the ninety are actual settlers and *bonâ fide* people of this country—how many white men?—A. Well, not many—about six or seven—sometimes more—sometimes ten.

Q. And the rest are what?—A. Chinese and Indian women.

Q. Then do you think you employ the real *bonâ fide* people of this country?—A. Yes; we employ the lords of the soil, respectable Chilliwaks. (Laughter.)

Q. Now if half of the people were respectable white people would it not be better for the country?—A. Well, if we could get them.

Q. You don't get them as long as you can get Indians and squaws at lower prices?—A. Well, I don't know.

Q. You stated that offal going into some bay near here drove the herring away?—A. Well, in English Bay the offal was the offal of the oil factory—not heads and tails of fish.

Q. Then you think there is a difference between that offal and the offal here?—A. I will tell you—the factory was a failure. They filled it full of this refuse and it spoilt on them. They got unlimited numbers of herrings and they pressed them for the oil and the refuse was dumped in. I don't know how many times they filled up their factory and tried to make it into a fertilizer and failed. Then the lands here don't want any fertilizer—the farmers would not use it.

Q. You put up 15,000 cases of fish, principally sockeye—what was the average weight of these fish?—A. Well, nearly eight-pounds, probably a little less—between seven and eight.

Q. Then in going through the process with an eight pound fish you would make how many cans?—A. Well, they would average but little less than five-four and a half to five cans

Q. Then three and a half pounds goes as offal?—A. No; not so much as that for this account, because there is always more fish in a can than a pound—generally an average of not less than eighteen ounces.

Q. You put that in for shrinkage?—A. No; not at all, but you take any can of fish and you will find they go over a pound, many twenty-one ounces—then the can, solder, and all, weighs three and a quarter to three and a half ounces.

Q. Then do I understand you to say the canners put in upwards of 60,000 pounds overweight in packing 15,000 cases?—A. Well yes, I think, as a rule. They may not average that—of course we are very careful and always do our best to have the full weight in. They don't all average that, some may be a fraction less in size or in depth, but I think my cans as a rule will average an ounce or two more or less over the pound. Then some of course are short, but we try our best not to have any less in the tins because there is reclamation then and a loss to the packer.

Q. Then you give 60,000 pounds overplus?—A. Well, about that.

Q. Have you ever thought of the quantity of offal thrown into the river from the canneries working on the river?—A. Oh, of course it must be very great.

Q. Between seven and eight million pounds of offal?—A. Well, I suppose it may be—I never figured on that.

Q. You read a report that was published—a report of an inspection of this river two or three years ago, did you not?—A. Well, I read some report—yes.

Q. If that report makes just exactly these figures you are now stating, it is pretty nearly correct, is it not?—A. I should think so, yes.

Q. As I first concluded from your remarks, you think it is not injurious if thrown into the channel of the river, but injurious or offensive if put in shallow water?—A. Offensive? Yes, if allowed to remain near the banks where there is no current.

Q. Would its offensiveness be so much as to cause miasmatic air?—A. Well, it would not be nice, I know.

Q. Would it be a preventive to some good, sound, wholesome men settling there? A. Not in near my cannery. It would be unhabitable, I believe, if the refuse of the cannery was buried within half a mile from any cannery, and as a matter of fact the oil factory at Burrard Inlet, it was so offensive to the people there that the people burned it—burned the factory up. I was through the town about a year before they burned it up and the offensiveness was very great.

Q. If you were living in the neighbourhood where such bad smells were created, you would help in the same thing?—A. Well, I am not an incendiary.

Q. But you would not like it?—A. No, I would not like it.

Q. You made some remarks as to the canners going to Ottawa. Are you aware that suggestions were carried out at their instigation?—A. It was said so.

Q. Have you read the reports of the department?—A. Well, I used to, but I don't get them now.

Q. You think the report made in regard to offal thrown into the river by an officer of the department was not correct?—A. Well, if the officer reported it was put in the channel of the river it would not be deleterious to fish life or offensive to anybody. I concur in that, and I think so does everybody.

Q. What about the limitation of nets?—A. Well, I think it is necessary that each cannery should have 25 nets for the proper conduct of their business. Those who have a capacity for more and wish to do so can buy fish from outside boats.

Q. You put the canners on the same basis, but if one has an excess in capacity he could get from outside boats?—A. Yes.

Q. What about fishermen?—A. Give them a net and license each.

Q. As many as applied for them?—A. No, I am different from some of the cannerymen in that regard—I believe it would be well to fix a limit. I believe that is very desirable to encourage men who follow fishing at present on the river—they do nothing else and make their living on the river. These men are very useful in supplying the markets with fresh fish which it does not pay the canners to put up. These men, if there is no protection, the result will be—they don't make much out of the spring fishing, they make very little over net and boat, &c., but they depend almost entirely upon the prices they get during the sockeye run—the result will be, if everybody goes into the river, even if they get 15 cents, they will have to abandon the fishing, because they cannot make enough to keep them at that business all the year round. The trouble is, that there are many foreign fishermen during the sockeye run and if they come in the fish will cost too much, and few by each man will be caught.

Q. How many licenses should your cannery get?—A. Twenty-five.

Q. You want all the rest of the canneries to get twenty-five?—A. Yes; I think all should get twenty-five.

Q. What chance would ordinary fishermen have if all the canneries on the river got twenty-five each?—A. Well, there would be enough outside fishermen to supply the local demand.

Q. Then you think the local demand enough for outside fishermen?—A. There would be little, if any, work for them from the cannery.

Q. In an abundant season how many boats would supply your cannery with 15,000 cases?—A. Oh, that would altogether depend upon the abundance of fish.

Q. Yes; but on an average?—A. I think twenty-five on an average.

Q. Fifteen would not supply you at all?—A. Oh, no.

Q. Would twenty-five fully?—A. Yes.

Q. Then if the cannerymen had twenty-five boats there would be no work for outside fishermen at all?—A. Not at all; some canneries some years ago used the products of double that number.

Q. Well, but I am putting you all down at twenty-five; would not the result be no chance for outside fishermen to sell fish?—A. No; it would not be the result, because if I engage outside fishermen it is customary for outside men to make arrangements to take fish beforehand.

Q. Yes; if the canneries had not enough boats of their own?—A. Oh, no. Excuse me—on one occasion I gave nine men a contract to supply me with fish. Well, fish

came in very abundant that year—I took the fish from those nine boats—I never refused one, and because I got more fish than I could handle I withdrew my own boats.

By Mr. Armstrong:

Q. Was not the reason because you had a contract?—A. Yes.

Q. Would it not be different if there was no contract?—A. Well, I have always done this, even if I had outside boats I have always taken a fair share of fish from them.

Q. Would you give a fair number of licenses to freezers or salters?—A. Well, it is not for me to say that. It is my opinion that these so-called freezers are not freezers at all; they are the same as outside fishermen. These can get ten licenses each, and they speculate with them.

Q. Would you give them more than one license?—A. These men who have a trade in fresh fish to be put up in broken ice, these men ought to have licenses, but ten is an excess—more than they use. Mr. Vienna follows that business entirely; I think he ought to have three or four licenses; I think that would be quite sufficient. The other places are the same.

Q. The freezers you think are about froze out?—A. Are about froze out. (Laughter.)

Q. Do you think curtailing the number of licenses to be issued on the river puts a commercial value on them?—A. Which?

Q. On the licenses—more than what would be if every fisherman who applied got a license?—A. I don't clearly understand you.

Q. Does it not make them more valuable? For instance, we have it here that as high as $50 has been paid for licenses; after the canneries got their number only a few were left, and consequently they brought as high as $50?—A. Well, I should say that would establish a commercial value, if it is sure they were sold for that price.

Q. Well, do you think it would be any injury to the fisheries generally if every British subject got a license?—A. Well, I think it would be injurious to the cannery people because so few fish would be caught in the boats it would not pay them, and the same for the single fishermen, because few fish would be caught each.

Q. But would it be injurious to the fisheries interest if every British subject got a license who paid for it?—A. Well, I really think it would not; I am not prepared to give an opinion, but I don't think it would.

By Mr. Wilmot:

Q. You say that with twenty boats you have taken 15,000 cases?—A. No; I don't say that; I had twenty licenses, but I might have twenty outsiders as well.

Q. Still, twenty boats have produced for you 15,000 cases; well, there are twenty-two canneries on the river—multiply 15,000 by 22 and we get 330,000 cases with twenty-two canneries. Now, 330,000 cases are greater than you had on the Fraser River?—A. But there are canneries that have not operated yet.

Q. Yes; but we are not putting them in; only the twenty-two who operated. Now, if you get twenty-five boats it will give you 412,500 cases; the consequence would be you almost double the catch you have had any time; now, would you buy a single fish from outside fishermen?—A. Well, but you are taking the supposition that there will be a good year every year.

Q. I take your own average.—A. Well, but these last couple of years have been fairly good.

Q. Well, according to your own statement, in 1890 you had 13,116 cases (report Board of Trade, 1890, p. 52). Now, if you had twenty-five boats you would have your factory filled with as many cases as you had any of these years; now, would you employ an outside boat?—A. Of course we would; we have to arrange before the fishing commences, and if fish are not abundant we don't get fish enough to keep us going, then we lay off our own boats.

Q. And with twenty-two canneries you would employ 132 white men, and all the rest would be Siwashes and Chinamen, and not a single white man to run your canneries?—A. Oh, but there are a great many men employed outside of direct work in the canneries. There is coal and wood to be got, &c.

Q. But I put this because we have had extravagant requests from fishermen here who wanted to get all the licenses, and now you say the fishermen should not have licenses?—A. No; I don't say that.

Q. Well, that is the English of it.—A. No; excuse me.

Q. But if you have twenty-five boats it is more than you want?—A. No; it is not more than I want, because if there is plenty of fish I will have to withdraw my own boats.

By Mr. Armstrong:

Q. But we have before us that it takes $5,000 to build a cannery, and you get $25,000 gain by not employing outside licenses.—A. It is not the case.

Mr. Wilmot.—Perhaps you should not make these remarks as yet, but we get so conflicting statements. Here we see where good men come to the country and then they cannot get a license to fish.

By Mr. Armstrong:

Q. And here is a man who gets ten licenses and lets them out and walks around town with his hands in his pockets and a good fisherman cannot get a license to fish. Now, don't you think that should be regulated?—A. Yes, certainly, and time and time again I have urged it that freezers have got an undue proportion of licenses. I acted for secretary of the board fourteen years ago, and I know that.

Q. Do you know of any influence brought to bear by those people to get licenses?—A. No; I don't know; I have heard, but I really cannot say.

Mr. Armstrong.—It seems there has been unfair influence brought to bear by someone or somebody.

By Mr. Wilmot:

Q. And in taking down this evidence it would be wrong for us to do so, that either canners or fishermen shall have all the licenses, so we have to take both sides. I think that the cannerymen should have a sufficient number of licenses to enable them to independently carry on their business without being overrun by the fishermen, but I also think the fishermen who are good men should not be debarred from their fishing too. A.—Well, those are my sentiments; but I wish to say a word or two about the way Mr. Wilmot has been taking evidence and putting questions. Some of the men who have given evidence are very good men and have been on the river some time, others have not; but the way the questions were put was particularly to bring out the views of these men from an eastern standpoint. We think highly of your views on eastern matters, but we don't think much of them on points here.

Q. Well, I think when intelligent men come forward, I ask questions as I think correct?—A. But I think you should not eulogize men who come forward. It has this tendency: it elicited and got evidence from men who have little or no experience. There are some here who had, but most of these men quite agree with you about the habits and methods of the fish, but these men have had no experience here.

Q. But you had experience in Scotland, had you not?—A. Well, perhaps; but there are men who have given evidence here who cannot tell the familiar dog-fish from a sock-eye. It will have this effect—I don't think they do it intentionally. It has this effect: here is the preponderance of evidence establishing matters which we know to be erroneous, and it will militate against this industry.

Q. But I am simply endeavouring to gain knowledge. There was a time, years ago, when people didn't believe electricity could drive a car, but knowledge has brought it out?—A. Yes; I know that.

Mr. Armstrong.—Well, but if we allow you the same privilege to rebut this evidence, you cannot complain—you can put in any evidence to disprove what has been said—you should not complain if we allow you to do that.

By Mr. Wilmot :

Q. What do you say about the close season?—A. The present close season is correct, for this reason : if you stop the boats from going out at 6 o'clock on Sunday, it will be impracticable to carry it out. As soon as it gets dark all hands will go out into the river, especially the single men—over and above all that, we want a supply of fish for Monday. Generally, there are only thirty days fishing, and many of these days we are short of fish anyway.

Q. But, if nine-tenths of the population think the Sabbath should be kept, it does not follow that one-tenth should make a profitable business out of it. However, you think the Sunday close time right now?—A. Yes.

By Mr. Armstrong :

Q. But what do you think of a change—from 12 o'clock Saturday to 6 o'clock Monday morning?—A. Well, you see we would not be able to get away with the fish, and would have to work on Sunday to put fish up.

Q. Do you work at night?—A. Not if we can avoid it.

Q. Do you think it would be too long close time from 6 o'clock Saturday morning to 6 o'clock Monday morning?—A. Too long a close time? I think so. I would object to that for this reason : the run only lasts for six weeks, and there are only twelve days when there is any quantity of fish, and in a good year we are fully handed only in ten or twelve days, and the result would be we would not be able to get up enough fish to recoup us, and as soon as fish cease to run, then it does not pay to put them up.

Q. Would you make a division on Saturday—say 9 o'clock?—A. No, I think not—for to be able to do a day's fishing we must start early in the morning—if an unlimited number of nets all right, but we cannot get them.

By Mr. Wilmot :

Q. Why not start at daylight Monday morning?—A. We want fish to work at on Monday—all people, trades people and any with interset in British Columbia, with the exception of Missionaries, will back the cannerymen up in that respect.

By Mr. Armstrong :

Q. We have too many fishermen who don't agree with you.—A. Such as they were—new-timers and come from Scotland and have been fishing here only a few years. These men may change their mind in a few years, especially if they have any money in business.

By Mr. Wilmot :

Q. Proprietors of canneries are generally very well off and can go to church if they like, while fishermen cannot—as his bread and butter depends upon it.—A. Well, no canner will object to a man going to church—he is not working in the afternoon—you see there is a close time from 6 o'clock on Saturday morning up to 6 o'clock on Sunday afternoon, and surely that is a long time. But there is a bad effect in the way you ask questions.

Q. What about the annual close season?—A. Of course, I believe in that, because there is no fish to be had.

Q. Very generous! Can you account for larger runs than usual the last few years? Do you give credit to the season or to any artificial aid at all?—A. I give the credit to the season—it is a matter of chance more than anything else. I give credit, of course, to the hatchery, but since the hatchery was established it has been of very little use, owing to the remissness of the department in not supplying the inspector here with sufficient labour to look after it properly, and one of the reasons it was asked for 14 or 15 years ago, was to allow people who put their money in this industry to find out about the salmon in the river, and of course, when established it was established under the rules of the department, under a paid officer, but this officer has been left without knowing what he was to do—they did not allow him to employ hands until it was too late in the season. He had no opportunity to get spawn off the healthy fish.

Q. There is no season in which the hatchery was not filled to over-flowing with eggs of fish. The reports from various officers are that it was filled too full with eggs?—A. Yes, I believe that, but filled from fish not in the best condition.

Q. Oh, I cannot say that—canners themselves say they want eggs from the sockeye?—Yes, but they don't go to get them in time.

Q. But I suppose you know you cannot get eggs before they are ripe?—A. I think they could have got them earlier.

Q. You believe the hatcheries are good though?—A. Yes, if properly conducted, and if sufficient appropriation is made to look after them.

Q. Big salaries?—A. Yes, the men were paid very small salaries and everything was done in a niggardly way, and the result has been very unsatisfactory.

Q. The object when this hatchery was originally started was to breed the quinnat salmon, but cannery men said "no, they are not numerous enough—we want the sockeye," and the government took every means to get the sockeye; but from evidence brought up at this commission, it seems that if "quinnat" were bred the majority would be white and red and thrown away as useless. Now your first run of sockeye is in July?—A. Yes.

Q. Well, we have been collecting eggs for a number of years and we never get them until the end of September or October?—A. This is the run of fish that I would want to take the spawn from, but you take the tail end of the run, and all know that the healthiest and most robust are the first that go up.

Q. But you have to wait until they are ready to spawn?—A. Well, we know this—the inspector complained very much—the late Tom Mowat—matters were always delayed too long—and two lines from the department would have done it.

Q. Oh well, you know if all complaints were gone into we could not think of attending to them. Now, have you anything more to say?—A. No; I think not.

Q. We are much obliged to you for your evidence?—A. You are welcome. By the way, a friend of mine, Mr. Laidlaw, asked me to say that he was not very well, and he would like to put in a statement.

Mr. Wilmot.—Oh yes; let him put it in—we will put it on record.

Mr. Birrell.—Very well, thank you.

J. C. ARMSTRONG, a British Canadian, a resident of New Westminster, and living in British Columbia since 1858, was duly sworn.

By Mr. Wilmot:

Q. Well, sir?—A. I merely wish to remark about the spawning grounds. I have been up and down the river—my impression is, if up at the Harrison River, at one place, the Government would employ an Indian or whiteman a month at certain seasons to let little salmon out, it would increase salmon more than the hatchery, at a very small expense. I have been there myself and I have seen the little salmon in the two little creeks where they go out, and when the water recedes they get dammed up, and the salmon remain there in millions, because they cannot get out.

Q. Then how hemmed in, sir?—A. This all gets flooded and the little salmon that are able to swim, rise, and the river drops quickly and they cannot get out.

By Mr. Armstrong:

Q. The water goes down and they cannot get out?—A. Yes; I have taken a stick and let many of them out.

By Mr. Wilmot:

Q. You have been up there and seen them, they were salmon?—A. Yes; I was with Mr. Mowat.

Q. What time of the year was it when you saw them there?—A. Along about the first of May or June.

Q. What size would they be?—A. Well, some could run around, but others hardly had the egg absorbed.

Q. Some you say only an inch and a half long and some with the sack on yet?—A. Yes.

Q. Were these naturally-bred fish or deposited?—A. Yes, naturally-bred fish. If you will dig down you will find the spawn there now—the water comes in and then dries up and the little salmon die. They were so plentiful that years ago the Indians used to get a stick and put it in and get the spawn and dry it for their Christmas pudding or something of that sort. Another thing—about the trout—I have seen the salmon as they came in to spawn followed by great numbers of those trout who go in to eat the spawn. The trout are the same as a pack of wolves after sheep.

Q. Well, one view is that Providence has provided things very well, and nature provided these spawning beds up there—but the most destructive animal to salmon and the young fish is man himself and not those creatures whom Providence has put there?—A. Well, I have seen as many salmon between Yale and Spencer's bridge as the canners put up in a whole year.

Q. What about salmon dying up the river?—A. Well, I don't know, I have come through a great many of them, probably acres of them.

A. Do you see live ones?—A. No.

Q. They were underneath—you seldom see the live ones, they would be underneath—it is only the dead ones you see. Well, I am sure we are very glad to hear your report and if our officer here will take up the matter and report upon it, I hope it will be attended to. We thank you for your information.

THOMAS LADNER, of Ladner's Landing, a native of England, a resident of Ladner's Landing, in British Columbia, since 1858, a salmon cannery proprietor, was duly sworn.

By Mr. Wilmot:

Q. Well, Mr. Ladner, have you any statement to make or would you prefer being questioned?—A. I am quite willing to answer any questions you may ask.

Q. What about the offal?—A. Well, my views in regard to offal are that it does no injury to fish whatever.

Q. What has it to do with the human family—their comfort, or health?—A. Well, speaking personally, I live right in it, and I don't know that it has injured me much. I don't think that it injures anyone; it causes a little stench sometimes, which, if the dead fish went, it would be more use.

Q. You think it offensive?—A. Yes, in certain localities as regards smell; but it is not injurious to fish or the human family generally.

Q. Are you a believer in science, or have you seen the authorities put forward by the Department of Agriculture, Province of Ontario?—A. No; I have not.

Q. Well, here is a statement from an Ontario Government official who has analysed offal of fish, and says—

"From the consideration of the whole question, I am of opinion that the manufacture of the refuse into fertilizer is strongly to be recommended, because:

"1st. It will thus utilize a bye-product that otherwise is a total loss.

"2nd. It will prevent the waters from being contaminated.

"3rd. Its proper management must tend to a more healthful surrounding.

"4th. Its return to the soils of the farm will partly offset the waste of our cities by sewerage carried to the lakes and rivers.

"5th. If properly handled it will pay well.

"From the great importance of this question to the health of the community, the welfare of the fishing industry, and the progress of agriculture, I have endeavoured to reply at this length."

—(Victoria, B.C., *Colonist*, 20th Feb., 1892.)

Mr. Ladner.—Who is the authority?

Mr. Wilmot.—The authority is Professor C. C. James, Professor of Chemistry in the Chemical Laboratory of the Ontario Agricultural College, at Guelph, Ont., who has analysed offal of cod fish, dog-fish, cannery refuse from salmon and herring. Those are his conclusions.

A. They are right in some ways and in others wrong. As a fertilizer we don't want it here then you must take into account the cost attached to it—what costs $1 in Ontario costs $10 here.

Mr. Wilmot.—Then the Provincial Government proposes that a syndicate be formed for the utilization of the offal and waste in connection with the proposed fishing operations of the Crofters to be brought out here for settlement. I will read you an extract from the Victoria *Daily Times* of the 21st February. After explaining the leading details of the scheme, the article goes on to say:—

"As it is understood, an English company is in course of organization with a capital of a million sterling, for the purpose of purchasing the fish from the boats of the Crofters as soon as caught, and transporting them through a cold storage system on steamers and cars to every important market on the continent. In addition to this it it is understood that the company will be prepared to cure fish by a variety of processes, extract fish oils and manufacture fertilizers, &c., from the offal. So that all kinds of fish procurable will be utilized and there shall be no waste. The reader will at once perceive how these two branches of the scheme will work into each other, and the whole tend to the development of the deep-sea fisheries of the province, thus establishing a new industry, the possibilities of which are as boundless as 'our great sea farm.'"

Mr. Ladner.—That is a good idea, I only hope that they will do it—they are quite welcome to all the offal on the Fraser River without buying it.

By Mr. Armstrong:

Q. Would you deliver it to them?—A. Yes; we would deliver it to them.

By Mr. Wilmot:

Q. Then you think it offensive?—A. Not universally an offensive thing—only once and awhile you smell it.

Q. Does it lodge?—A. Oh, a little—heads and tails.

Q. Is not that the largest portion?—A. No; I think the entrails the largest portion.

Q. It depends how much you cut off?—A. Yes.

Q. You think it not detrimental to fish—is any other substance detrimental to fish? Would saw-dust be injurious?—A. Yes; I think it would be injurious if it got in the gills, otherwise I don't think it would.

Q. Do you think from your knowledge, that saw-dust or any description of offal, if strewn on beds where eggs are laid by salmon would be injurious?—A. I suppose it would.

Q. How about the limitation of nets—what are your views? Under the present rule the canners are entitled to twenty boats each and the fishermen in number to take up 150, while canners 350.—A. Well, if you take it on the basis of my opinion, I would allow fishermen to buy all the licenses they wish, and I think canners should have at least twenty-five nets each. Every British subject and resident of the country should be intitled to get one boat and canners not less than twenty-five.

Q. Now, Mr. Ladner, I cannot help but refer to the figures, as in the case of Mr. Birrell: but do you advocate an unlimited number of canneries?—A. Yes; any person who wants to put up a cannery, let him do so.

Q. You are more liberal than many others?—A. Oh, I don't know, I don't advocate a monopoly of the canners at all.

Q. Then you think canners should have twenty-five licenses and fishermen have an unlimited number—one each?—A. I do.

Q. There are twenty-two canneries on the river? A. Yes.

Q. Are others to be erected?—A. Possibly.

Q. At twenty-five boats each and twenty-two canneries it would bring a product of 15,000 cases for each cannery in excess of any one year you have fished this river?—A. Well, I don't know how you make that out.

Q. Well, you see, if twenty-two canneries at twenty boats each are required to produce as many cases as have been produced?—A. On what authority do you place the boats at twenty? There would be outside boats would there not? Then the runs vary—you base your figures that they catch so many fish every day.

Q. No; I base my figures on an average of 15,000 cases, and that is the average of all the canneries except Mr. Ewen's?—A. No; I have put up more than that. I work according to the market. If it justifies me in packing 25,000 cases, I will do it.

Q. Then you think Mr. Birrell not correct?—A. I disagree with him in that respect.

Q. Then twenty-five boats would always, with fair runs of fish, supply your factory?—A. But I say they would not.

Q. What would you say that twenty-five boats would produce daily with an ordinary run of fish?—A. Well, when you speak "daily" you cannot form a basis of opinion on daily catches, because, some years there are large runs and some small.

Q. Well, take 1889 or 1890?—A. Well, say 1890. In the day you were here twenty-five boats would supply a cannery. That day was the only day I saw so many fish on the Fraser River.

Q. The fish came to meet me then. (Laughter)?—A. Yes, sir; but you cannot base an opinion on 25 boats, because you cannot take the run of a big year—there is only a few days in the year when the big run happens—some days they will be fifty to a hundred to a boat and even 300, and I have got 400 to the boat, but that is an exceptional thing. You cannot base an opinion on that—I am speaking of twelve years experience now.

Q. Well, you say you would be satisfied with twenty-five boats?—A. No. I would not. I say I would be willing to work on a basis of twenty-five boats and obtain the balance of fish I require from outside boats, because twenty-five would not supply my cannery, either in a large or small year.

Q. How many boats did you run last year?—A. I think it was twenty and some outside boats.

Q. And your pack was 12,700 cases?—A. If that book shows it (referring to departmental report in Mr. Wilmot's hands), that is it.

Q. Then you think you could not keep your cannery running satisfactorily with under twenty-five boats?—A. Not with twenty-five boats—I take a basis of twenty-five, and what I require over and above that I get from outside boats—now one year I used thirty boats.

Q. Do you think you could overfish the river?—A. No, I don't think so.

Q. Would a thousand boats affect it, or 10,000? A. Well, in reason they would, but our fishing is done in tidal water almost entirely. I saw a case in point where they brought in an average of 150 fish to a boat, and next morning they don't bring ten fish to the boat, and that was the whole length of the river, and that satisfied me that fish come in and stay in one day—they get beyond all chance of being caught. Fish have plenty of chance to get up river.

Q. What is your idea as to freezers and market-men?—A. Well, my idea is they have an over-supply of boats, because they use them during the sockeye run. In the spring run and fall run they require boats, of course, but during the sockeye run they don't use the number of boats they get.

Q. But if a freezing establishment is put up with the view to employing capital and men to work it and can put up an equivalent to 15,000 cases, should not the industry be encouraged?—A. Certainly.

Q. Don't you think they would be equally beneficial?—A. No; canneries employ more labour, and thus are more beneficial.

Q. But canneries employ Indians and Chinamen?—A. Oh, I differ; I employ 20 whitemen in my cannery; canneries differ.

Q. But in putting up an equivalent to 15,000 cases of canned salmon the amount of labour would not be so great as the amount of labour required in canneries?—A. No, of course not.

Q. But the whole fish would be taken; none would be thrown away?—A. Well, it might not be thrown away here, but it would be thrown away somewhere else. I don't know whether they gut them or not, but this must be thrown away somewhere.

Q. What about the heads and shoulders and tails?—A. Oh, well, we don't throw away as much as all as we are represented to do.

Q. What is the average weight of the fish you take?—A. About 7 or 8 pounds.

Q. These were perhaps a little larger than usual when I was there?—Oh, about an average; in a good run they are smaller. That run when you were here was exceptionally good, and only lasted for one day.

Q. How many cans do you make to a fish?—A. Between 4 or 5 cans.

Q. Then fish weighing 8 pounds will give you 5 cans and 3 pounds offal?—A. Yes.

Q. You have read the statement of an individual in a public document, have you, that an 8 pound fish would make 5 cans and 3 pounds thrown away as offal?—A. Well, I will tell you, Mr. Wilmot, that I was so disgusted when I saw that cut in the report that I did not read it. That is the honest truth. I was so disgusted with that cut I wouldn't read it.

Q. But the actual figures are correct?—A. Well, according to that cut there was more than half the fish thrown away.

Q. You have good eyes, have you not?—A. Yes; very good.

Mr. Wilmot.—(Showing cut in report, Department of Fisheries, 1890, p. 66). Does that cut show more than half the fish thrown away?—A. Yes, it does, provided you take the entrails out. The cuts should be shown nearer the head and tail.

Q. But the facts are that three pounds of offal are taken from an eight pound fish?—A. Oh, well, the facts are just as I state them.

Q. Then you contend the canneries should have twenty-five licenses—that every man should have one, and that as many canneries as like to should go in the business?—A. Yes; and as regards freezers—I think they should have enough to conduct the business, but I don't think freezers should have licenses to traffic in.

Q. Do you think canners should have licenses to traffic in?—A. No.

Q. Is it ever done?—A. I never heard of it being done.

Q. What is the custom of canners employing outside fishermen?—A. Pay them so much each for their fish.

Q. Is it the habit of canners to do somewhat similar to what freezers do, namely, apply for ten boats and then when they cannot use them sell them to others?—A. The nets should not be used as nets for freezers when issued to canners—it is proper they should be used for the purpose for which issued.

Q. And the same should apply to canners?—A. Of course.

Q. Do you think a settler or farmer should fish at a small fee for his own use?—A. Yes; or what is more, if he chooses to fish he has just as much right.

Q. But the fee is different?—A. Oh, well, in that case, yes.

Q. Well, these things I have put to you are just the very laws as they stand on the Statute Book?—A. But I want twenty-five licenses and unlimited licenses to outsiders.

Q. Would you give them in the same way to Indians?—A. No; I would not.

Q. Why?—A. Because I don't think them capable.

Q. Do not canneries employ great numbers of Indians?—A. Yes.

Q. Are they not capable of doing their work?—A. They are capable in a way; but it does not make much difference—they should be allowed every privilege possible. We claim in British Columbia the Indians are self-supporting, but they should not have same privileges as whitemen.

Q. What about the close season?—A. I think the close season as at present is correct.

Q. That is what you practised last year?—A. Yes.

Q. What about an annual close season?—A. I think there should be an annual close season.

Q. What time would you say for that? A. From 1st March to 25th August as open time—nets not less than $5\frac{3}{4}$ inches.

Q. And the close period from?—A. And from 25th August to 25th September nets should not be less than $7\frac{3}{4}$ inches—we have then spring salmon running in the fall.

Q. Do you can them?—A. Yes; sometimes.

Q. Are some white and red?—A. Yes.

Q. What do you do with them?—A. Give them to Indians.

Q. Are none thrown away?—A. I never saw any.

Q. From 25th September what then?—A. From 25th September to 1st November, nets should be of not less than $5\frac{3}{4}$ inch mesh. My reasons for this is that in early spring we catch the spring salmon and of course that requires large mesh and we don't require small meshes nets until along in July. Well, I put it $5\frac{3}{4}$ because you can use as much larger as you like, but you must not use smaller.

Q. Five and three-quarters is the established mesh—from 1st November, what do you do then?—A. Well, we don't fish—not after that.

Q. And you would have a close season but no fish?—A. Oh, there are fish, but we don't catch them.

Q. Then you are willing to give a close season for fish when you cannot get or use them!—A. Well, we give two days throughout the fishing season now.

Q. Can you assign any cause for the good runs in the last few years?—A. I think the hatchery is a decided success.

Q. And is it your view on behalf of the fisheries of the country, there should be additional ones built?—A. It is, I think there should be one on the head waters of the Fraser and on the head waters of the Thompson.

Q. What fish would you breed?—A. The sockeye—I would advocate big salmon, only that you are just as liable to hatch white ones as red ones. It is very hard to tell them when you take them out of the water—you can tell them though—experienced fishermen can tell them.

Q. Would they prevail at any season except when they are spawning?—A. Well, I don't know, perhaps so.

Q. Where is the fishing carried on principally in the river?—A. From the mouth of the river to Stave River.

Q. Where is the mouth of the river?—A. From Garry Bush to the opposite Point—I consider that the mouth of the river proper, but not for fishing—the principal fishing is carried on out on the sand heads and from New Westminster down.

Q. What would be the proportion of boats that would be fishing from Garry Point outwards?—A. It is pretty hard to say—I don't think half of them. I have never taken it into consideration.

Q. Therefore, there is really not a greater but equal proportion of fishing carried on outside of the mouth of the river?—A. Yes, I think so.

Q. And do you think any interference with fishing outside the mouth proper would not be countenanced by canners or anyone else?—A. I don't think they would countenance it, because little harm can be done. They very often catch more fish above Westminster than we do at the mouth of the river. All the nets you could put at the mouth of the river would not stop fish going up.

Q. Then you think the present limit for fishing on the Fraser River is correct?—A. Tidal waters up to Sumas.

Q. No, I may state the Dominion Government has agreed to establishing the boundary at Pitt River bridge and at Hammond on the main river, for commercial fishing?—A. I don't know anything about the Pitt, but I don't see why fishing should be stopped at Hammond—they fish at the mouth of the Stave River.

Q. For commercial purposes?—A. Yes, they bring them down to the canneries.

Q. The idea is to allow fish that have passed the gauntlet of your nets to go free up to the spawning beds, (showing diagram of proposed limits for fishing on Fraser River, report, Department of Fisheries, 1890, p. 77.) now, you go generally to the mouth of the river—you would not seriously object to the lines laid off there?—A. Yes, I would not mind as regards Pitt River, but I think fishing should be allowed up to the Stave

River. The limit should not be lower than Stave River. I think the present limits are all that is required—they have been the limits for years and there is no reason for changing it.

By Mr. Armstrong:

Q. What do you consider the present limits?—A. Up to Sumas.

Mr. Wilmot.—I don't think so.

By Mr. Armstrong:

Q. Why would it not do to make the weekly close season from 12 o'clock Saturday to 12 o'clock Sunday night?—A. Well, there is a great number of reasons—the principal is if the close time is 12 o'clock at night we would not get one-third of our boats out fishing and the consequence would be we would lose all day Saturday, all day Sunday and all day Monday—three days each out of five weeks.

Q. Well 12 o'clock Saturday to 6 o'clock Sunday?—A. No; that would not do—we would have to work on Sunday and that would cost us double—over-time is double time. If that is to be it would be just as well that all consent for people who will not work on Sunday not to work.

By Mr. Wilmot:

Q. If you commenced fishing on Sunday at 12 o'clock midnight, could not fishermen be enabled to get fish for next morning?—A. No; they could not catch sufficient quantities—we would not get one-third of the boats to work.

Q. Then Sunday close time amounts to nothing?—A. Oh, no; Sunday closes—it closes equally in the majority of people's opinions here.

Q. But if you break Sunday at all, is it not as bad to work a part as all of it?—A. That is a matter of opinion. Now, we have only a few weeks in the year, and I consider it a greater sin when these things are given us if we don't take care of them.

Q. We have in evidence that some fishermen will not work on Sundays?—A. Well, perhaps they are christians like Mr. Wilmot, and others are christians like me. (laughter). I think it would be a great injustice to make the Sunday law any different—all persons can do as they like—some persons' conscientious scruples should not rule the others.

By Mr. Armstrong:

Q. But you say you could not get all the boats out if they went at 12 o'clock Sunday night?—A. Because they will not be over half a shift—they say so sometimes in the day time—we could not get our men to go out fishing—some might go but some would not.

By Mr. Wilmot:

Q. Have you anything further to say?—A. Yes; when your Commission is sitting in Victoria, I would like you to call upon Mr. Smith, who can give you very good information on spawning grounds and the way the Indians are taking the young fish—they take them out, he says, in waggon loads. He could give you very good information.

Mr. Armstrong.—Yes; we will endeavour to get him when we go there.

Mr. D. H. PORT, who had previously given evidence, presented himself before the Commission and stated his desire to make a few explanations in view of statements made by different witnesses. He had not thrown large quantities of fish away, but may have thrown away forty or fifty, but that would be all. He also had sold some fish to the canneries and considered the fairest limitation would be in the close time and not in the limitation of boats. He had not bartered licenses or sold them, but had worked them on shares—the fishing materials being supplied by him and arrangements made with the fishermen.

The Commission adjourned at 6 p.m., to meet at the same place at 10 a.m., on the 23rd February, 1892.

New Westminster, B.C., 23rd February, 1892.

The Commission met in the Court-house at 10 a.m.

Present:—Mr. S. Wilmot, presiding; Sheriff Armstrong, Mr. C. F. Winter, secretary.

At the request of Mr. P. Birrell, and upon permission of the Chair, the secretary read over a portion of his notes of evidence given by Mr. Birrell the day previous, and about which that gentleman was in doubt. Mr. Birrell expressed his satisfaction with the record.

ALEXANDER EWEN, of New Westminster, a native of Scotland, twenty-eight years resident in British Columbia, a salmon canner and proprietor, was duly sworn.

By Mr. Wilmot:

Q. Will it be as well to commence by asking questions, or will you give a statement?—A. Oh, just as well to ask questions.

Q. Well, the first matter of importance is the offal question. Will you state concisely your views as to what you think on this matter—what are your views?—A. My view on the subject is that offal does no injury to salmon—it has no injurious effect upon them.

Q. Not injurious to salmon?—A. No; nor to fish life of any kind. It has been a question that has raised a great deal of agitation here, but on the whole Pacific coast it has always been put in the rivers and waters—on the Columbia River, on which there is a great deal more fish put up than here, and on the Skeena, and I cannot see any effect during the twenty-eight years I have been fishing here. The salmon are as plentiful now as they ever have been. I think the first year I was in the country salmon were scarcer than ever I have seen them since. Five or six years after that we had one summer when they were very scarce.

Q. Then you think it is not injurious to salmon or fish life of any kind?—A. No; that is what I think.

Q. What do you think as to health, or looking at it from a sanitary point of view?—A. Well, I have seen no effect that it has had, and I have been working at it myself and sometimes employed a good many men, and there is very little sickness that I have seen around any of the fishing establishments.

Q. Then you don't think it injurious, from a sanitary point of view, to anyone?—A. To no one working around the canneries—I have used the water and everyone around has also done so—white men, Indians, and Chinamen, and as far as I know it has never been filtered around my place.

Q. It is filtered in some places?—A. I don't know.

Q. Is it usual to take it right out of the river, or do you boil it?—A. When making tea it is usual to boil it, but not for drinking.

Q. Do they drink water there?—A. Yes; we are often forced to drink it, of course.

Q. But as a usual custom is water used for drinking?—A. Yes; as a general custom it is used the same as in the city for all culinary and other purposes.

Q. Drawn directly out of the river at the canneries?—A. Yes; at the canneries.

Q. So you are under the impression that it is not injurious to fish, man, or beast?—A. Well, I am under the impression that it is not so—there are waters in stagnant sloughs that are not fit to drink, but there is such rank vegetation there.

Q. This water in the sloughs—is its condition brought about by offal?—A. No offal can get there—it is flat land—offal does not affect it there. It is a great trouble on flat land for farmers have to go to the river to get good water.

Q. Is the water saline up at your cannery?—A. No; it is always fresh water.

Q. Now, as you are a practical man here and of large experience, have you ever made any attempt to dispose of the offal as the law requires?—A. No.

Q. Were you aware all this time that you were open to heavy penalties?—A. No, I never thought about it—there is no use of anticipating anything bad—it was never put in force. Of course if it had been put in force I would have had to do the next best thing.

Q. You never looked forward to having it done?—A. No; I never bothered about it.

Q. Have you in connection with other canners lately thought it advisable to put offal out in the channel of the river?—A. Well I think it is put in the channel in most cases. The canners will always do anything that will satisfy the people as far as we can comply with it, but at the same time I don't think it would be any material benefit.

Q. Are canneries erected in the channel of the river?—A. Well, they are not in the centre of the river, but they deposit offal in deep water and in a current as deep as in the channel, unless you go to pick out some deep places in the channel.

Q. Is the channel sometimes so strong as to require considerable steam power in a ship or tug so as to stem it?—A. No; the average current is about four miles an hour. It may be more at low water and according to the strength of the tide—it may be on the sand heads as much as seven and eight miles an hour.

Q. Then there is considerable current in the middle of the river—is the current similar where the canneries are built?—A. Yes; the same current—from four to six miles an hour.

Q. Is it a fact or not that some canneries are built so that they almost touch the banks of the river?—A. Well, they are all built in that way—some may be built in not so much current.

Q. But all are more or less built so that a portion is over the water on piers and part on the land?—A. Yes, the building; but they are all built so that we clean the fish all over the water, and in a great many places the banks of the river are almost perpendicular—you are right in deep water at once.

Q. You know that the law was, offal shall be disposed of otherwise than by putting it in the river—what suggestion could you make as to its disposal?—A. Well, I don't know any way it could be done.

Q. Is it cast down in such immense quantities?—A. Yes, the only way I think it could be done, would be to put it in scows and take it right out to the middle of the Gulf, but that would be an impossibility, because the expense would be great and one-half the time it would have to be put right on the fishing grounds, especially when the sea was running, and powerful boats would be needed to take it out.

Q. Would that be beyond the lighthouse?—A. Oh, yes; five or six miles below the lighthouse.

Q. Is fishing carried on out beyond the lighthouse?—A. Yes.

Q. They get along very well with small boats there?—A. Yes.

Q. Then a steamer could carry it out?—A. Yes, but at great expense, and it would be a matter of consideration for me whether I would do without catching salmon at all.

Q. Do not some canners send offal to the oil factory at a distance?—A. Yes, some do—I have smelt it (laughter)—still I don't think it any benefit. They may extract some oil from it, but this offal again goes into the river.

Q. Is the oil establishment still running?—A. No, it can only run for two or three weeks.

Q. But it ran last year?—A. Yes, and I think the year before.

Q. Do you know what they do with the oil they make?—A. No, I expect it is exported from the country—there is dog-fish oil—that is exported.

Q. Do they make dog-fish oil there?—A. No.

Q. It has been running two or three years?—A. Yes, but not running to any extent.

Q. If the establishment was larger they could handle more offal?—A. Yes, but that would be no benefit, their offal is still going into the river—(*i.e.* the offal from the oil factory).

Q. Then you think anything extracted from the offal would not take away any of the injurious effects?—A. No, I don't think it would—they only take a portion of the

oil from it, they don't do it all and a great deal of money has been spent in British Columbia in trying to make this oil business a success and they have brought men from New York, but it has failed.

Q. A good deal of English capital has been invested in canneries here, has it not?—A. Yes, I believe so.

Q. Do you not know it to be so?—A. Well, there is a good deal of this money in the business, but many people here still retain their money in it, too.

Q. Do you not think that if the law was enforced these capitalists who have invested money in the cannery would not go on with the oil factory and prevent the offal from going into the river?—A. Well, I don't know that.

Q. But would these people not carry out the law and extract oil?—A. Well, I don't know anything about it—my opinion is, that if I was in that position I would stop work.

Q. Do you mean to say that the canneries would stop if offal was prevented from going into the river?—A. Yes, as far as I am concerned. Give me the fish for nothing and make me comply with the law and I would not touch it.

Q. Have you made calculations on that?—A. Well, I have made calculations, and I know what the cost of the steamer would be to carry the offal to the factory, and I know it would be greater than the cost of our fish—then the other way, that is putting it into the Gulf,—the only means that I can think of, and I know if that was done in a reasonable way we would go into it, but no matter how we did it we would find it a greater nuisance than that complained of.

Q. Yet the canners are willing to carry offal out in scows to the channel of the river?—A. I don't know anything about that.

Q. Do you belong to the Canners' Association?—A. No, I don't—in fact there is no association.

Q. Do they not have meetings and make rules, &c.?—A. Well, there was an association a few years ago, but it is broken up.

Q. Before they went to Ottawa?—A. Yes; I think so—I am not particular in remembering dates.

Q. Do you know the cause for breaking up the association?—A. Well, I don't want to say—I don't think it would do any good to tell you—people disagree, you know.

Q. Do you know on what they disagreed?—A. Well, greatly on this question of licenses.

Q. Were some wanting more licenses than others?—A. Well, those are questions it is useless to ask, for I speak only for myself.

Q. Then your opinion is it would be injurious to the canneries to be compelled, as the law directs, to consume offal otherwise than by putting it in the river?—A. Well, I consider it would be unnecessary expense, and I cannot suggest any way that would lessen the expense to do this and which is not necessary.

Q. But suppose a higher authority said it was necessary, what then?—A. Well, I would have to do it or stop working.

Q. And you think if that was the case, it would be very injurious to you?—A. Not to me wholly, but to the industry.

By Mr. Armstrong:

Q. But you know what is the law if you throw offal in the river, and the Government as a government have no power to change that law?—A. I don't know if they have power or not.

Q. No; they have not. An Act of Parliament cannot be changed except by another Act which supersedes it. Now, you stand, as canners, in this way—anyone can go before a magistrate and complain of you throwing that offal in the river, and you could be fined up to $100 for every day and every time you do it. Now, would it not be better to do something to get out of that position?—A. Well, we have been trying to do all we could.

Q. Well, but you have done nothing, but a few canners have started an oil factory?—A. Well, but it is not a success and then most of their offal goes again into the river.

Q. Are you aware they have tons of it there and have not thrown any of it into the river?—A. I am aware tons of it have gone into the river.

Q. But you stand in that position still and liable to be fined $100 every day and every time you throw it in?—A. Well, if you put it at $100 a day, in a good run it would be the cheapest way we could get out of it.

Q. But it would be $100 every time you put it in?—A. Oh, well, I might make another suggestion—that if the Government put that in force it might be the best thing for the country. I rather think if any people are doing evil, it is within the province of the people to stop it. If it is wrong, they are the governing authority. I am aware of the position we are in.

Q. And some day some one will come forward and lay complaint?—A. I know it.

By Mr. Wilmot:

Q. You say there were tons of offal went in the river from the oil factory. Can you tell how much?—A. Two tons or over.

By Mr. Armstrong:

Do you think it as injurious as the offal of fish, or worse?—A. Well, I would consider it was more so. They take the oil away from it, and the oil, you know, is pretty good food. Lots of people live a good deal on it—the water goes down smoother (jokingly).

By Mr. Wilmot:

Q. Now, about 200 tons of offal are thrown away from each establishment on an average. Do you know how many establishments sent offal down to this factory?—A. No: I have heard two, but I cannot give definite information. You ask Laidlaw or Wadham, and they will tell you.

Q. You think it a hardship that the Government should insist upon offal not being thrown into the water? I think you said no other countries interfered with this?—A. I don't know of other countries.

Q. I will show you what other countries do: In the State of Washington there is a penalty of from $50 to $250 exacted from persons throwing deleterious substances in streams?—A. Well, that is observed something like it is in British Columbia.

Q. Then in the State of Oregon there is a penalty of from $100 to $500 for persons putting in deleterious substances?—A. But I beg your pardon—they all allow offal to go into the river, and don't consider it one of the nuisances. That is their reading of the law.

Q. The law applies throughout all the Dominion that offal shall not be thrown into the water, nor upon the Atlantic shores where fishing is carried on, and fishermen have applied for that because, they say, where offal is thrown in, fish gradually disappear. I merely mention that to show that the Fraser River is not alone where a law regarding offal is in force. In England, and in Sweden and Norway, it is not allowed?—A. I fished for over twenty years in England and Scotland and there was no such law to my knowledge.

Q. But probably since you came away the waters became defiled and depleted, and it became necessary to make this law?—A. As a rule, there is not the amount of offal thrown into rivers there as here, and it is utilized in various ways; but I have seen great quantities thrown outside of harbours into the water.

Q. But you don't seem willing to do even that here?—A. Well, but when it cannot be carried away, it is put into the harbour. This happens two or three days during the herring fishery.

Q. Are you aware at Burrard Inlet there was a factory there and the quantity of offal, &c., thrown in has driven herring away?—A. Well, herring have gone away, as they have in several places, but there is a city there now and other things. The herring came into tidal water to spawn upon rocks, old logs, &c., but the saw-mills and sewerage have destroyed vegetation, &c.,—the saw-dust from wood when it lodges upon the mud changes it—it gets black as coal tar and very offensive, and it was these causes that stopped the herring—they had nothing to spawn upon.

Q. Was saw-dust so plentiful as to cover the body of the harbour?—A. Well, it became very plentiful, and there is a city there now. The herring have disappeared from many places on this coast.

Q. I suppose you know there are many places in the Dominion where salmon have wholly left?—A. I don't know about other parts of the Dominion.

Q. But if you were told it was so and they left from such causes, would you not think herring disappeared from similar causes?—A. Well, fish disappear as civilization comes in.

Q. Do you not want civilization to come because the salmon will disappear?—A. Oh, no; but I want people to have fish while they can—they are as plentiful as ever they have been.

Q. And you think offal not injurious to fish life, or in any way?—A. Well, not to fish life—I am not a scientist.

Q. You heard articles read yesterday about these matters?—A. Yes, I heard something, but I did not get a full knowledge of it.

Q. Then you defer to practical men and scientists and medical men who say it would tend to a better surrounding if not put into the water, and they then say it will pay well, &c.?—A. Well, let them try it—practical experience is often different to theory.

Q. Then you think the remarks falling from these men are not correct?—A. No, I would not say that, but I do not think they are correct as regards here—it has not yet been shown that it is injurious here—the fish are as plentiful as ever they have been.

Q. But fish were scarce when you came here first?—A. They were at first, yes.

Q. You had smaller appliances then?—A. No, just the same—there were just six or eight nets, or ten then.

Q. Now there are about 600?—A. Yes, but we were catching then ten and twenty salmon in a day.

Q. But how many now?—A. Well, in some off years that is the average we catch now.

Q. What is the cause of their being more plentiful now?—A. But I don't say they are more plentiful—as plentiful as ever, not more plentiful.

Q. What do you think of the effect of artificial breeding here?—A. Well, I have not seen anything from it that has shown anything to give an opinion upon—it is altogether in an experimental stage yet. The artificial breeding of salmon I don't think has been anything of a success—anything as I have heard or read about.

Q. You think it no success anywhere?—A. Well, I have never heard of it. I have seen artificial breeding about fifty years ago. I have been round the coasts of Scotland marking the smolt when they were leaving. The first year I was here I saw many smolts but have not seen them since. They can be seen very well; the water is crowded and you can see them. We were fishing with same mesh as used in Italian seine for catching oulachons, and in catching these we got a number of smolts or young salmon—there was not a great number. Then I take a great interest in salmon—I have been catching salmon for the last fifty years.

Q. Do you think saw-dust injurious to rivers?—A. I don't think saw-dust injurious to salmon. When they come in here they are forcing their way through anything—they get beyond us in twenty-four hours.

At 11.35 a.m. the Court room, being required by His Honour Judge Boles for the trial of a pending case, the chairman declared the Commission adjourned until 1 o'clock p.m., Mr. A. Ewen to return at that hour for further examination.

Afternoon Session.

WESTMINSTER, 23rd February, 1892.

The Commission reassembled in the jury room, Court-house, at 1 p.m. Present: Mr. S. Wilmot, in the Chair; Sheriff Armstrong and Secretary Winter.

The examination of Mr. A. Ewen was continued.

By Mr. Wilmot:

Q. We got as far as the offal question, I think?—A. I have one bit of correction of my remarks to make. There is a Canners' Association in existence yet. It is not confined to cannerymen, but, in common, most prominent men in the province belong to it. It is not a Canners' Association alone, but takes in salt fish and others as well. Its headquarters are in Victoria. There are a number of cannerymen in it, and others besides.

Q. Cannerymen and fishermen, is that it?—A. Yes, anybody. It is open for you to be a member, if you like. The fee is $50.

Q. Will you advance the fee? I might get information from it more than here? (laughter)—A. Oh, well, if you are disposed to put your money in it, you would see. And then there is the question of my having only one cannery—the question was put to me several times. I have two, but it never came into my head; but I don't look upon it as more than one.

Q. Both fully equipped and ready for work?—A. Yes; ready for work but I have never operated in the new one. I could not get fish enough to do anything with it. I got the licenses, but used the boats for the one establishment. I could not get either fish or men to work it.

Q. What is the capacity of your factory?—A. Oh, I don't know. In the one that I worked I put up over 2,000 cases a day.

Q. The annual output has been equal to that?—A. This last three or four years it has been about 25,000 or 30,000 cases—taking the past three or four years.

Q. What is the ordinary average pack—yours is the largest by far, is it not?—A. No; I don't know that it is much larger than others.

Q. You do more business than others?—A. I have been doing more than others.

Q. What is the average pack of theirs, have you any idea?—A. Well, the statements are different every year in the Dominion blue-books, and the statements are made here from the Board of Trade.

Q. What capacity should a cannery be to allow it to obtain the usual supply of licenses?—A. I don't know.

Q. Should a cannery be established with a capacity of using ten boats, but yet get twenty?—A. Well, that is a question that no person can calculate upon—it depends upon what fish you get. You may begin, and wish to put up forty or fifty cases a day, and get boats for it, but after the run begins, you may have to take off half of the boats and then this large catch is only for a few days—ten days or two weeks as a rule—that you can get more fish than you can cure. The rest of the time you don't get such a supply; perhaps not near as many as you want.

Q. What do you think the number of boats should be for a cannery—what the outside limit?—A. Well, I should like to have at least forty. Last year I got fish from over sixty.

Q. Then the outside limit should be forty?—A. Yes; I don't care what limit it is, as long as the limitation is on the whole river. It was placed, I believe, two years ago, when the department put the limit at twenty or twenty-five boats, and the $20 license fee, but it was with the understanding that the river should be left open.

Q. Then the canneries were to be unlimited in licenses?—A. Not particularly the canners—we had reason for that on account of labour.

By Mr. Armstrong:

Q. Limited to what?—A. To twenty-five—it was on account of labour, but outside of that we tried for the river to be unlimited.

By Mr. Wilmot :

Q. Then you as a body of canners wished the river to be open without limit?—A. Yes ; that was what we asked for ; but then they raised the licenses, but still kept the limitation on.

Q. But the object now is to know as near as possible what is a fair division of licenses. You were willing to say then that twenty-five should be a fair proportion to the canners and fishermen unlimited?—A. Yes ; but I would be willing for that yet, and the reason we want that quantity is on account of the Indian labour. It is impossible to put up a large quantity of fish in that time, unless you have Indian labour.

By Mr. Armstrong :

Q. Do you think each cannery should have the same number of licenses?—A. Well, if licenses were unlimited to outside parties, I see no necessity of one cannery having more than another—no real necessity ; but if the river was limited it would be unfair to give them all the same number of licenses.

By Mr. Wilmot :

Q. But your view in a few words means this—you are of the impression that it would be best for canners to be limited to a certain number?—A. No, I dont say it would be best—but it is making no material difference.

Q. But should canners get licenses not exceeding twenty-five and outside fishermen get all they want?—A. Yes, I think it would do, but it would not be satisfactory if the same limitation was kept up.

Q. And would 25 boats be sufficient for canners to run establishments with a pack of 15,000 cases!—A. No it would not.

Q. How many would it take to do it?—A. It would depend on the season. Between thirty and forty boats. They might not use all during the heavy run.

By Mr. Armstrong :

Q. Could you give us an average?—A. It is impossible to give an average. The real reason that you want to have those boats of your own and get Indian fishermen as they bring their families around and you have Indian women and boys, and some of the men, not fishermen, to work in the canneries, and when this extra fishing comes on you can take off your own boats and get off to work in the cannery. There are not so many Chinamen as there were, and Indians, these last few years, are more pliable and will work in the cannery when they see there is a rush. Three or four years ago they would not do this, but now they are more pleased to work when they get more wages in the cannery, and they will work during that period when salmon is so plentiful. This is the real reason why we would like to have these licenses, or rather that I would.

Q. You found last year forty licenses necessary to run one cannery?—A. Yes ; I run between sixty and seventy boats and they didn't get near supplied. There was more fish come than we expected. I took off a number of Indians and limited men who were fishing down for a day or two till we got over the run, it only happened one or two days somehow like that.

Q. And you think it necessary to have that number of boats every year?—A. Well, we would like to have that privilege. This year I had a lot of boats and gave them to persons who could not get a license—some took them on shares—that is the great trouble many of the best fishermen could not get a license.

Q. But you would like to get forty?—A. Yes ; but out of that forty I don't fish myself more than fifteen or sixteen.

Q. The rest you let out?—A. Yes ; I give them to good men.

Q. Do you get fish cheaper that way?—A. Well, it just depends—sometimes you get them cheaper.

By Mr. Wilmot :

Q. Have you an idea of the gross number of boats fished on the river in 1890. A.—No.

Q. The limit was 500—how far did it exceed that number?—A. I don't know. I never knew it exceeded that at all.

Q. Are you not aware it exceeded that number by forty or fifty?—A. Well, I don't know—I heard so—I believe there were some licenses came out after the others were taken up.

By Mr. Armstrony:

Q. You would be willing to do with these licenses if the river was thrown open to all *bonâ fide* fishermen to get licenses?—A. Yes; and I think it an impossibility to over-fish the river under the present system as fished, as you are confined to gill-nets and limited to tidal waters.

By Mr. Wilmot:

Q. What is worse than gill-nets, then?—A. I don't know of anything worse that could be applied in this river, for fish that enter the Fraser River are beyond the reach of the fishermen and protected after they enter the river, the water is cold and the fish swim fast and they go right past us, you may say the same day they are at the sand-heads they are at Yale, the difference of time, you can hardly distinguish it.

By Mr. Armstrong:

Q. You say under the limits they could not be decreased?—A. Well, under the regulations we can only bar one-third of the river.

By Mr. Wilmot:

Q. Is that observed?—A. Well, yes it is, I think.

Q. It is something like the offal, perhaps?—A. Well, I don't know, you would want a steamboat, perhaps, to have it perfectly observed.

Q. Well, you say you cannot adhere to laws, or won't adhere?—A. Well, I maintain these laws are framed without consulting the peculiarities of the river. It is impossible to over-fish the river with the loose drift-net—the river is wider in one place than another, and your net is drifted at three and four and five miles an hour, and you get in places where you cannot use it.

By Mr. Armstrong:

Q. Do you think the fishery in danger of being exhausted, if all fishermen get licenses?—A. No; I don't think there is any danger.

By Mr. Wilmot:

Q. Then how did the fishermen come to the conclusion about the limitation of 350 and 150?—A. Well, that limitation was asked for for a number of years, and I don't think I was in favour of it any more than now.

Q. It was at the instigation of the canners?—A. Well, I don't know as it was at their instigation altogether—reports were taken from the Board of Trade, and I think that it was the Board of Trade that sent these representatives—the Board of Trade of Victoria.

Q. Do they rule the fisheries of the Fraser River?—A. No; but they may have a word to say—but there were representations made that were not wholly correct. It was correct in this way, they showed that the pack was much less than years before.

Q. Because of scarcity of salmon in the river?—A. They attributed it to that, but it was not so; the canneries were running so low because the markets were so over-supplied there was no demand for them.

Q. But we don't want the markets, we are talking of fish?—A. Well, I tell you it was not scarcity of fish; the people here have been suggesting things to the department, but this thing of over-fishing the river has been pressed upon the mind of the Government, and it is that which has hampered the industry here.

Q. But you ask for a limit of 500 boats, to be divided among canners and outside fishermen ; then twenty boats was the limit for canners—now you want twenty-five or thirty—therefore fish must be getting scarcer ?—A. Those are not facts.

Q. I merely mention this to show that there must be some cause now why you ask for twenty-five or forty ?—A. I dispute the facts.

Q. But if you require twenty-five or forty nets now to do work which you did with twenty, there must be a scarcity of fish ?—A. But this suggestion never came from this association ; I don't know what private individuals have done, but I don't know as it has ever been stated that twenty boats were quite sufficient.

Q. Then you do not agree with the general opinions of the association ?—A. In some I do, but in this I do not. They might have been satisfied with twenty licenses in these last few years, if the river was left unlimited.

Q. Well, it is just simply this, all they were entitled to was twenty licenses ?—A. Last year was the first time it came down to twenty licenses ; the year before I had thirty-eight or thirty-nine.

Q. You think it necessary to have a greater number of licenses than twenty to carry out your work ?—A. Yes ; because the industry is getting greater all the time, and more going into it. Fish are just as plentiful as ever they were, but more capital is going into the business every year.

Q. Do you think anyone should put up a cannery who likes ?—A. Well, it is all right—there should be no restriction.

Q. Then factories should be unlimited in number, the outside fishermen should be unlimited in number—then what about the limit of licenses to canners ?—A. They should be unlimited—if they were I might not take ten or twenty licenses, but I want the privilege of doing it to get Indian labour around my cannery—the whole object is really to enable us to get the Indian labour.

Q. You consider the fishing should be thrown open to all—as many canneries as people like to build and all fishermen to get licenses ?—A. Yes ; it means virtually throwing the river open.

Q. Then you don't think too much fishing can hurt the river ?—A. No ; it has never done so yet, and I don't think if it is thrown open there would be more fishing done.

Q. No matter how much fishing is done you cannot injure the river ?—A. Yes ; there is nothing to show injury yet—it might be over done perhaps, but keeping in view the present modes of fishing and the limitation that we cannot go beyond the tidal waters, it is not at all likely, but when these limits are on you cannot over-fish it—you may get some years when it is easier getting supplied up the river, that it may be profitable to fish higher up and especially now when they are working the cold-storage system and shipping fish all over the world.

Q. Then you think that a wholesale throwing open of the river would not be injurious to the river ?—A. No ; under present laws it would not be. The fish in twenty-four hours are beyond our reach—the river is alive with them.

Q. Well, the next matter is, are the fish pretty much the same every year ?—A. Some years they are larger and some smaller, but there is not much difference—some years when there is a heavy run they are smaller.

Q. What average—seven or eight pounds ?—A. There abouts.

Q. Do you put more than one pound in a can ?—A. As a rule—sometimes there is less—when you are canning you cannot weigh them all and the light ones come back to the canners' loss—they would average about eighteen or nineteen ounces to the tin.

Q. How many cans do you get to the fish ?—A. Well, it will run between four and five.

Q. So with an ordinary sized fish you can four or five cans and the rest is thrown away as offal— of an eight pound fish there would be four of meat and three of offal ?—A. Yes ; sometimes you may get them larger or smaller—I don't know exactly the proportion—I have weighed them but I have not gone into the thing so close.

Q. Have you any idea of the quantity of offal going into the river in any one year ?—A. No.

Q. Would you be astonished if I told you it was many million pounds weight ?—A. No ; but it has been very much exaggerated.

Q. How so?—A. Well, it has been exaggerated—how much blood is there in a fish? Then there is always more or less water inside them—well, all these things should be taken into consideration—it is a good deal of guess work with anyone.

By Mr. Armstrong :

Q. Do you think there is half a pound of blood in a fish?—A. Yes; I should think so.

Q. Then that should be deducted from the offal?—A. Yes.

By Mr. Wilmot :

Q. Would you be astonished to hear that you had put 3,373,012 pounds of offal into the river in 1889?—A. I don't know.

Q. Well, how do you say the figures are exaggerated?—A. Well, take the quantities of fish, and I am sure it is exaggerated.

Q. Well, but take the fish caught—they made so many cans, and the balance would be offal, would it not?—A. Yes; but it is all guess work—you know the number of cases made, but you cannot tell how many fish you put into them.

Q. Well, but you say your fish average so and so and you make so many cans?—A. Well, in some cases you make more—some seasons you don't average eight fish to the case. The way to do is to bring it right through, one season with another.

Q. But when you state public prints are exaggerated you should be able to prove it?—A. Well, it is taken from report, not from observation.

Q. It is taken from your own reports?—A. Well, we don't get them.

Q. Don't you sell your cans by so many numbers?—A. By so many numbers, but that does not represent the whole work—you cannot get it unless you go down and see it.

Q. About saw-dust—you think it injurious to the river?—A. I don't think it injurious to salmon—the saw-dust between here and the mouth of the river—because salmon don't lie here—they are not in any pools—they are passing hundreds of miles beyond them.

Q. But, you must remember this Commission is not dealing solely with the Fraser River, but with all matters regarding the fisheries of British Columbia—now do you not think saw-dust injurious?—A. If it lodges on the spawning grounds, undoubtedly.

Q. How can you prevent it lodging on the spawning grounds?—A. Well, in British Columbia I don't think it could get on the spawning beds unless it ran up-hill. It is not proper to put it in streams where it can lodge upon spawning grounds, but I am not so rabid as to say that it should not be put into streams where it does not do injury.

Q. But it might be injurious in one stream and not in another?—A. Well, I think it would be injurious in all streams, because where there is saw-dust it hurts the spawning.

Q. What are your views as regards fishing with seines?—A. Well, fishing with seines is the only way that has been attempted to fish in salt water inlets and bays as yet—they could not work them in the Fraser River.

Q. But as compared for destructive qualities—the gill-net and seine?—A. I don't think either very destructive—you could not use a seine in the Fraser River. I expect what you want to get at is that seines take all the young fish that are unfit for food.

Q. Do you think they do?—A. No, I don't; but I never had much experience with them—I never saw any young fish.

Q. But if a seine is hauled around the coasts of creeks and rivers, is it more injuious than a floating net?—No; I think both equally the same. It is not injurious, it is only a mode of catching them; if fish have to be caught either is good—it is a question which is the cheapest way of catching them.

Q. Then if both are alike, all your gill-nets are seines?—A. No, they are not; you require smaller mesh for seines—it is for catching fish without gilling them. When our fish are coming plentifully they are striking the nets everywhere. If it was clear water in the river you could not catch them with gill-nets.

Q. Then it is muddy water that gives the opportunity of getting caught in gill-nets?—A. No; but it makes them cheaper in that way. We could not catch them with gill-nets if the river was clear on the shoals, &c., and the muddy water makes it unprofitable to work seines.

By Mr. Armstrong:

Q. Do you think the canneries a benefit to the Indian population of the province?—A. Well, I believe they are; it is work the Indian naturally likes to work at and they get good wages and whole families work at it. If the Indians departed from working at that, I think there would be nothing for them but to go back to reservations and let the Government feed them. There are a great number of them, and if the Indians were not here we could not put up our work like we do.

By Mr. Wilmot:

Q. Are Indians and Indian women employed exclusively?—A. No; not one-half or one-tenth—the most are Indian boys, their ambition is to be fishermen. I find now the Indians are only too willing to get in the cannery and work there as long as there is work for them. We want to get everyone to work in the cannery during the run of fish as long as we can get fish, but if we cannot get fish we put them out to fish again.

Q. Suppose the Fraser River clear limpid water—would you catch more fish with a gill-net or seine?—A. Well, it would throw the gill-net fishing into night work, because you would get very few in daylight, and it would allow the salmon to congregate in shoals together and with seines you would get more fish at less expense. I believe in fishing with a seine in clear water where you can see it would be the best way, but in muddy water you cannot use it so profitably.

Q. Then a seine is a more destructive engine than a gill-net?—A. Well, you will find in British Columbia more seines than gill-nets; they throw the seine out into the river, stretched out, and watch for fish going up. It is a question of economy which is best to do.

Q. What do you think of the close season?—A. Well, I think the present rule for the weekly close season is as good as can be made—from six o'clock Saturday morning to six o'clock Sunday night.

Q. Do you think it would be injurious to your interest to extend the time to twelve o'clock Sunday night?—A. Yes; I would rather have it to six o'clock Monday morning than twelve o'clock Sunday night, but if you make it twelve o'clock Sunday night, make it begin at twelve o'clock Saturday noon.

Q. Well, I think your views are correct; from the moral point of view what do you say?—A. Well, look at the great trouble you will have getting the boats out; the people would have to be around in the evening if you made it twelve o'clock Sunday; it would evade the carrying out of the law and be very disagreeable.

Q. I think your views very correct that fishing might commence on Monday morning?—A. The question is whether would the Sabbath observation be beneficial, and it is a question for the Government; it is the first time that I have heard it advocated by the Government to take Sunday.

Q. Well, I think you will find statutory enactments that work shall not be done on Sunday—emanating from both the Provincial and Dominion Governments, if I am not mistaken?—A. Well, I don't know that.

Q. You think then the Sunday close time all right?—A. Yes.

Q. What do you think of an annual close season?—A. Well, an annual close season in British Columbia, and the Fraser River particularly, it would be very hard to keep—we have so many different kinds of salmon here.

Q. Do you have a close season now?—A. Yes.

Q. When?—A. When fish are done; they make a close season for themselves. When the canneries commence they fish for a very short portion of the season, but the great difficulty is, we have five different kinds of salmon here and they don't all run at the same time. There are fish caught in the river that should not be caught.

Q. What are they?—Well, there is the early spring salmon, the sockeye, the humpback, and everything else.

Q. You say the spring salmon should not be caught?—A. At certain seasons.

Q. What seasons?—A. Well, after they are down in condition and are not good food.

Q. When they have spawned?—A. No; before they spawn.

Q. When would that be?—A. In the latter part of August and early part of September.

Q. Then they should be preserved in August and September?—A. Well, sometime about that.

Q. They are running the whole season through?—A. No; but you will get them after that, but not plentifully. At that time you will be catching the sockeyes, but they are not good.

By Mr. Armstrong:

Q. What time should you not catch the spring salmon?—A. Well, about the middle of September.

Q. For how long?—A. Until the following spring, April.

By Mr. Wilmot:

Q. What would you consider a proper close season for sockeye?—A. Well, they run until the middle of August.

Q. And until when should they not be caught?—A. Well, not until the first of next July again.

Q. The next most valuable fish is the cohoe, is it not?—A. Well, yes; it is the next best commercial fish.

Q. Should they have a close season?—A. All should have close seasons.

Q. What for cohoes?—A. Well, I cannot think of these things all at once—well, they come in along after the latter part of the spring salmon, about the 15th September, and they hold out longer than any run we have, except it be the spring salmon.

Q. Then, the close time for spring salmon would cover cohoes, too?—A. Well, you might make it for cohoes all the year, excepting two months, beginning the middle of Septemher—September, October, and the first two weeks of November—this is the time you have them in good condition, but you cannot fish for one without catching the other.

Q. Well, but you could pitch them away, as you do with white salmon?—A. Well, that is what is done with them all.

Q. Have you any objection to the present limits for fishing in the Fraser River. Do you agree to a stoppage of fishing from Garry Bush out?—A. No; it is from Garry Bush out that we have the greatest area of fishing ground.

Q. The best fishing ground?—A. Well, you have a larger field to work in there.

By Mr. Wilmot:

Q. Well, suppose a mile from Garry Bush outwards was prevented from being fished, what effect would that have?—A. The fishing is not done altogether in the channel—the fishing is done nearly from Point Roberts to Point Grey, going outside as far as they can get fish to work with, as there is a larger area of ground.

Q. You think it injudicious to shorten the limits of the river?—A. Yes; I don't think the present limits interfere with anyone much.

Q. Then, the present limits are all right?—A. Yes, I think they are about right.

Q. The present limits extend up to Sumas. The recommendation now is that it be shortened down to Pitt River and Hammond, the present regulations say "tidal water," now this is with a view that it will prevent in the future more canneries being built up to the Sumas, where fish would be annihilated, and so the department says we will shorten up the distance down to Hammond and Pitt River.

Q. Now, Mr. Ewen, who, in your opinion, should get licenses. Should everybody get licenses, if British subjects?—A. Yes; let any man, even not a British subject, we have the same privilege with United States citizens, for fishermen can go down to the Columbia River and fish. (Voice from the audience.) No; it cannot be done.

Mr. Ewen (continuing.) If the limitation is kept on I should certainly say only British subjects should get licenses because when a limit is put on they work into parties hands who are not as deserving as others.

Q. Do you think the transfer of licenses correct, and is it right to barter them?—A. Well, I don't know whether right or not—I have no objection—it perhaps would not be fair, but it would allow the fish to be caught in the country.

Q. Otherwise is it just that a man who comes to this country to settle cannot get a license should others barter them out to him?—A. No; that is not justice, but I maintain if the limit is taken off no harm would be done.

Q. Well, Mr. Ewen, we have had a long discussion with you—unless you have something else to say we are quite satisfied?—A. Well, have you been doing anything about the sea fisheries? There are a number of fishermen who are more acquainted with salt water fishing than with fresh water fishing on the Fraser River—it has not been touched upon. There has been a discrimination of licenses here in British Columbia that has not been fair.

Q. Do you think a man on the Fraser River should pay twenty dollars and a man on the Skeena or Naas pay only five dollars?—A. No; I don't think it fair.

By Mr. Armstrong:

Q. Should fishermen with boat and net pay the same price as cannerymen?—A. Yes; and when this twenty dollar license fee was suggested, and I believe I was one of the principal ones for doing it, it was intended the fee should be the same.

Q. Do you think the license fee should be the same all round?—A. Yes; I think it should be the same—there is more competition here and less on the Skeena and other rivers. I think the canning industry should be hampered as little as possible; there has been a great deal of canned salmon put up for a number of years and the consumption is not equal to the supply, and it has been done for the purpose of forcing it on the world, but people are going away from eating canned goods rather than taking more of it, and I think it not wise to hamper the industry. Here we should not be too much cramped—we have Alaska and other places to compete with, and British Columbia would be shut out of the market altogether if you hamper us too much.

By Mr. Wilmot:

Q. Would 500 boats catch more than 100?—A. Oh, yes; I suppose so.

Q. Now, if you gave unlimited fishing here to everybody would it not increase the catch?—A. Well, I don't think it would increase the catch nor increase the number of boats fishing on the river—that is my belief—but it would make it satisfactory to everyone employed in the industry. People would not take more licenses than they require, if free to all. I might not want ten licenses, if plenty outside, and certainly I would not put up a great quantity of salmon unless I could sell them.

Q. But if another Government allows the Alaska fishermen to bring their fisheries to an end as fast as possible, should we not husband ours here?—A. I don't know what it is in Alaska, but I know the Columbia River is similar to the Fraser River and salmon are as plentiful as ever they were.

Q. Yes; but the United States Government are instituting means whereby they shall not be fished as much as possible?

By Mr. Armstrong:

Q. You say that if the fishing business here is hampered you will not be able to compete with the industries of other countries. How are we to know that unless you give us figures as to cost of putting up a case of fish, &c. It has been stated here that you can afford to put up a cannery for $5,000, and by getting twenty licenses can make $25,000—how are we to know if that is correct, or that you are hampered?—A. Canneries that are up here, already in existence, and under present regulations, cannot work up to their expenditure.

By Mr. Wilmot:

Q. Well, how is it you build additional canneries every year?—A. Well, I built an additional cannery last year because I got cornered.

By Mr. Armstrong:

Q. Yes; to get more licenses?—A. Well, I was under a bond for $40,000, and these twenty licenses cost me $16,000, which was money throw away for no use.

Q. But men say you made $25,000?—A. Well, I knew I threw that away; it is impossible to tell you what you make or what you lose in the season.

Q. I want you to give an average; surely you can do that?—A. Well, not very well; in the past five or six years the canneries have made from 10 to 20 per cent upon their investments; they might have made 10 per cent; last year there is a great possibility there was 20 or 30 per cent loss.

Q. Well, we want to know what it costs in order to know if any incumbrances should be put on the canneries?—A. But incumbrances are put on as the offal and the limitations that are put on.

By Mr. Wilmot:

Q. But this—the offal—is not an incumbrance, because the law has never been put in force?—A. But we are afraid that it will be.

By Mr. Armstrong:

Q. You see, as the law stands at the present day, you are liable to a fine if any person lays complaint before a magistrate, and if you want us to recommend this matter to the Government we must get figures to know?—A. But if this expense is put on us we will have to shut the cannery; this offal question is the most serious question put against us.

By Mr. Wilmot:

Q. But you have never had any trouble?—A. No; but we expect to.

By Mr. Armstrong:

Q. But we must have figures to show?—A. Well, let the Government put the law in force and let them see how it will act; then they will see if it will be beneficial to the country; I am not speaking personally, but for the province and the industry. I might speak the other way if I spoke personally, not only on offal but everything else.

By Mr. Wilmot:

Q. Well, Mr. Ewen, have you anything else to lay before us?—A. No; I will give way to someone else.

ALBERT FADER, of Vancouver, a British Canadian, a resident of British Columbia for three years and nine months, and a fish dealer, was duly sworn.

Mr. Fader.—I represent now the British Columbia Fishing and Trading Company, limited.

By Mr. Wilmot:

Q. Have you anything special to lay before us?—A. Well, about the close season; I don't quite understand that the close season means outside of the Fraser River or not.

Q. It is applicable all over British Columbia?—A. Well, I think it would effect the salt water fishermen.

Q. They are fishing where?—A. Anywhere in salt water; I mean outside of rivers, on the coast; there are lots of salmon taken by hooks, and some by gill-nets, and it is for local trade and also for some trade shipments to the mountains; I think it would effect the trade generally.

Q. Well, sir, you think then that any close season would affect trade in relation to catching fish on the coast?—A. Yes; I do.

By Mr. Armstrong:

Q. Do you mean weekly or annual close season?—A. The annual close season.

By Mr. Wilmot:

Q. You think it injurious to enforce the weekly close season?—A. I think the present law in that regard very good.

Q. In your capacity do you represent canners?—A. No, sir.

Q. Simply the ordinary fishermen on the coast?—A. Yes; we have fishermen from whom we buy and we have a steamer in the deep water fishery. We applied for licenses to go on this river last year but could not get them, and we think ourselves entitled to ten licenses as well as freezers to allow us to compete with them in eastern markets.

Q. At present you have no licenses?—A. No, sir; and our trade is hampered accordingly.

Q. What fish do you deal in?—A. All kinds, halibut and salmon principally.

By Mr. Armstrong:

Q. Do you get many cod?—A. Yes, several; but there is not much demand for them just now.

By Mr. Wilmot:

Q. Well, as regards this deep-sea fishery the license would not apply?—A. No; but I am speaking of salmon in salt water, and talking of seine fishing in rivers—in clear water—now, that is the only way you can catch fish in the rivers up the coast. The rivers there are just as clear as can be and salmon will not gill at all.

Q. Have you any information from other parts of the world?—A. Yes; I came from Nova Scotia—the Atlantic coast.

Q. Are you not aware they fish in these limpid waters with gill-nets?—A. Yes? but salmon is a leading fish; at the mouths of the rivers they play around for several days and will not get across over twenty feet—if they strike a net they sheer off from it. I have tried a trap the same as we use in the east and I have not caught a salmon in the trap.

Q. Do you know Bay des Chaleurs or Bay of Fundy?—A. Yes; I know the Bay of Fundy, but they have very swift tide there; the water is not very clear and runs rapidly.

Q. You think the Pacific water more clear than the Atlantic?—A. Well, I don't know as it is.

Q. But the salmon act differently?—A. Well, you know our fish in the east will come and stop for nothing, but here it is different—salmon will fly around in coves and creeks after the small herring; the water is very full of small bait and they will not mesh as they will in the east. I have tried it in all ways, and as I say brought out a trap-net, but we could not catch them at all.

Q. But the last witness says fish cannot see and run into anything?—A. That is in the Fraser River—that is right.

Q. But in Great Britain they catch salmon in gill-nets?—A. I know, and on the Atlantic we do the same.

Q. But here you must use a seine?—A. Yes; I have been up the coast pretty often and could name several rivers I have been into and in which it would be no use to set a gill-net at all, they would not mesh.

Q. Therefore you think that to prevent seining at the mouths of rivers would be injudicious to you and the people you deal with?—A. Yes; in clear rivers.

Q. But we cannot distinguish one as a dirty and one as a clean river?—A. Well, you can easily find out—there are very few dirty rivers.

Q. Therefore it would apply generally?—A. Yes; there are not over three or four where you can gill salmon.

Q. Do persons who fish for you haul seines in the rivers?—A. Well, we have not bought any yet from seines.

Q. Then why are you giving evidence of the inability to catch salmon with gill-nets?—A. Well, we have tried gill-nets—I am speaking now of the river from Alert Bay where gill-nets have been tried time and time again and never with success—it is a limpid river and I have been up it, right up to the lake. Now on a river like the Fraser River you would not want a seine because the salmon gill.

Q. If they used the seine here would not they catch more fish than with the gill-net?—A. Well, yes, I think they would—if your seine took the bottom, of course, they would.

Q. But a seine generally does take the bottom?—A. Yes, of course—the Fraser River I am not so well acquainted with, but in smaller rivers I know that is the only chance to catch them.

Q. The seining you propose—is it on the river proper or on the coast?—A. At the mouth of rivers.

Q. Just where fish congregate to go up to spawn?—A. Well, of course, they have to come there to get in the rivers.

By Mr. Armstrong:

Q. Are they large rivers—how wide at the mouth?—A. Some rivers 200 feet. I should say from 200 to 300 feet.

By Mr. Wilmot:

Q. And you draw the seine within that 200 feet and you take in all the river?—A. Well, a seine drawing on each side would take in—well, all the mouth.

Q. How many meshes in the bag of the net?—A. Well, it runs from five up. It just depends where you fish. Seines would run from ten to twenty feet deep.

Q. And what length?—A. Twenty to thirty and seventy-five fathoms.

Q. The lead lines always dragging on bottom and the corks on top, forming a bag as you draw it in?—A. Yes.

Q. What mesh do you use?—A. From two to four inch.

Q. Do you catch sockeyes there?—A. Well, those fish are caught in one river there. The only river we seine for the cannery is the Minkish. I don't know if any are used north of that or not.

Q. Have you been present when seines are drawn?—A. Yes; I have been present.

Q. What fish are caught, principally?—A. Sockeyes during their season. I have not been present when drawn——

Q. What other fish?—A. I have seen small fish—herring, flounders, and anything coming within the compass of the net would be brought in.

Q. What sizes of salmon?—A. Well, about the same size as on the Fraser River.

Q. Seven to eight pounds?—A. Yes.

Q. Are not smaller salmon, from two to three pounds, caught there?—A. No; I never heard of any.

Q. How are small salmon exposed on the markets for sale—are they caught in seines?—A. I dont' know.

Q. Have you any on your stalls?—A. Well, a few are brought to me by fishermen.

Q. What time of the year are they brought?—A. I have seen them last March—some in February, a few—I never saw many on the market.

Q. Or you don't know how many are caught with seines at the mouth of rivers?—A. I don't think many at any time of the year. I think small salmon come in when no one is fishing.

Q. You catch herring?—A. Yes.

Q. And colachans?—A. No; the meshes are too big, and then it is only in a few rivers where the colachans are.

Q. What is the size of herring caught?—A. Small—eight to ten inches.

Q. Then the net would catch small salmon of eight or ten inches?—A. Yes; it would.

Q. And if small salmon or trout were going in or out the mouth of these rivers, they would be caught?—A. Yes.

Q. What do you mean by trout?—A. I mean river trout.

Q. Do you know small salmon from trout?—A. Yes; I know them, but they never draw for herring at the mouths of rivers with inch mesh.

Q. Do you mean inch extension measure?—A. Yes; extension mesh. Two to four inch are generally used in the mouths of rivers.

Q. And would four inch catch salmon?—A. Oh, no; there are very few seines used on the coast.

Q. But they may grow to a great extent and create injurious results?—A. I don't think they would be an injury in deep water fisheries.

Q. Then if the use of seines were forbidden at the mouth of rivers, could they not catch salmon farther away?—A. No, sir; you see there could be no salmon taken at all in these rivers, unless taken by a seine.

Q. Why?—A. Because they will not gill.

Q. But why should seines be drawn at the mouth of rivers?—A. Well, I will show you. See here—(here witness drew a pencil diagram on paper, to illustrate his meaning, and presented to the Chairman.)

Q. But it would not catch more fish that way?—A. Oh, yes; of course it would; but parent fish have plenty of chance to get up the river. You see, it takes, say, three hours to throw the seine, and then they have the whole night for getting up.

Q. You never throw the seine at night?—A. Well, I never draw my seine at night. I cannot see that the fishermen up north can make a success of fishing there for salmon without seines. It is impossible for them to do it.

Q. Well, that was the way in all other places—in England and Scotland, &c.?—A. But do you not know that an Englishman gave away part of our country because the salmon would not take the fly (laughter). Well, that was the way when I came out here. I put down my trap and could not understand why I could not catch any salmon. I have set a gill-net for 250 miles up the coast, and I have set a trap up as far north as Cape Scott (north-western part of Vancouver Island), and never caught a salmon with either of them. Salmon will not lead here, sir.

Q. And you say salmon always run to the east?—A. Not here; they run every way. I said on the Atlantic coast they run east, but here they do not.

Q. But suppose a north and south river—what would they do?—A. Well, this is what I mean (illustrating his meaning by pencil diagram on paper). I have had trap nets and consider nets and salmon on the Atlantic coast quite different to the ones here.

By Mr. Armstrong:

Q. Do you think salmon knows its native river?—A. I do; and they go to that river and no other, because I see there is a little difference between the salmon here and the salmon north. You notice some difference between the Fraser River salmon and the northern salmon.

By Mr. Wilmot:

Q. No matter then whether the river runs from east, or west, or north, he would go in that river?—A. Yes; but our mackerel do the same thing; they follow down the American coast. As regards fishing for salmon, though, on our coasts here I think I am pretty correct as far as my experience goes from the way we have had our nets set, &c.

Q. Well, then, if salmon all go to their native rivers—and which is an admitted fact everywhere—and a river is 200 yards wide at the mouth, hauling a seine for 200 yards at the mouth of the stream, would it not interfere with the migration of salmon going up that river to breed?—A. Yes; to a certain extent; I don't believe that every salmon that goes in the river spawns.

Q. Why should they leave their feeding grounds and go up rivers if not for some purpose?—A. Well, they follow the flock.

Q. Then if an old fish went up and didn't feed, and went to breed, she would take the smaller ones and they would wait until she was through and them come back?—A. Well, I believe so; of course I have not had the same experience here as in the east to have the same knowledge of salmon, but as far as I know I have given you my experience.

Q. As salmon all frequent their native stream, and at annual periods migrate up that stream, any extra fishing at the mouth of a river would prevent the family going up then, would it not?—A. Of course it would thin them out to a certain extent, but I think there are plenty of chances for enough to get up to spawn, outside of them.

Q. What is the width of the mouth of the river you have reference to?—A. It is quite narrow; there is a lake further up.

By Mr. Armstrong:

Q. Do fish get up to the lake?—A. Oh, yes; they get up to the lake; I have seen Indians coming down from the lake with dog-salmon which they have dried for their own use. Now, I know a place where we have taken fish out where the river strikes the canyon, perfectly black with salmon, but they went no further, and came back; they are not merchantable salmon, but very good salmon.

Q. Are these cohoes or humpbacks?—A. They are not just exactly humpbacks; the flesh is like the humpback, but they are different to sockeyes and cohoes.

Q. Have you steel-heads there?—A. Yes; there are steel-heads.

Q. Then these rivers are practically the same as those down here!—A. Yes; practically much the same.

Q. What is the usual average mesh of gill-nets there?—A. Five and seven-eighths.

Q. This is used for gill nets?—A. Yes.

Q. You use seines with three and four-inch mesh?—A. Yes; I have seen them with three and four-inch mesh.

Q. Yes.; equal to two-inch mesh; would not this be more likely to take salmon than five and seven-eighths-inch mesh in a gill-net?—A. Certainly, it would.

Q. And it would not only catch more salmon of the same size, but smaller ones too?—A. Well, no; I have never seen any small ones in these northern rivers.

By Mr. Wilmot:

Q. Well, but one must destroy more than the other—one floats on the surface and the other drags on the bottom all the time, thus a seine must be more destructive than a gill-net, taking one of each?—A. Oh, yes; if you take one of each, but here is a river with 200 boats in it and here one with one seine in it.

Q. But would not a seine be more destructive than a gill-net?—A. I would sooner take my chances with a gill-net if the water was muddy.

Q. Are not all rivers in these parts more or less muddy in certain seasons of the year?—A. I think it is likely they are in certain seasons of the year, but salmon may not be in those rivers at that time.

Q. What time do salmon generally enter the rivers there?—A. Well, the rivers north have salmon earlier than the rivers here.

Q. But the rivers you speak of?—A. I am not talking of one river, I am speaking of several rivers, because I know of several where we would operate if allowed.

Q. In what season would you operate?—A. The latter part of July and August.

Q. Is that the period when the fish are running up river?—A. Yes; they make the river about that time.

Q. Is this the sockeye?—A. No; we don't fish for sockeye—we want big spring salmon for shipping east; they don't suit for canning—they have been tried but were not thought well of.

Q. You want seines for catching spring salmon?—A. Yes; I wish you to understand me—we have not caught any, but we desire to do so.

Q. Then you want the use of seines, to be permitted at mouths of rivers to catch salmon?—A. Yes; in rivers with clear water. There are rivers up north that are gravelly bottomed rivers and seines don't effect them and it would be wrong to have the

river only to catch fish with gill-nets like in the Fraser River. I have seen several rivers up north, of course I have not stayed there every day to see, but from all the information we could gather from Indians and inhabitants we understand it was all clear water.

Q. Have you anything further, sir?—A. The reason that makes me speak of the salt water fishing is this seining is an industry for catching fish that cannot be caught otherwise owing to the physical peculiarities of the streams. Then these salmon are not fit for canning but would be a valuable fish if we could place them on the market; I think they will be a profitable fish for sale. We have not tested it but we intend to test it and think these privileges should not be stopped. We have been making a study of the coast before commencing operations.

Q. Do you understand that the same thing has occurred in other parts of the country? And you have left it to better yourself in this country?—A. No; I did not come here with that intention solely. In the Fraser River there is no need of seines, gill-nets do their business there, but in clear rivers with salmon it only lets the fish die off and no one gets the benefit of them at all—they come there and breed and die off.

Q. Do they die off?—A. Well, I understand that a salmon dies always at four years old.

Q. Do you see fish coming down after spawning?—A. Oh, yes; I have seen dog-fish coming down after spawning.

Q. Many persons think that all fish die that go up the Fraser River?—A. Well, a great many die anyway.

Q. Do you adhere to the close season up there?—A. I don't think they fish on Sundays up there—not for salmon.

Q. What do you think about the license fee?—A. Well, that is a pretty hard question for me to answer.

Q. You only pay $5 up there?—A. Well, of course, I am not in the cannery business, and it would not be right for me to interfere in the canners' business.

Q. But we want all the evidence we can get?—A. Well, I think we are all trying to get licenses as low as possible, if we get them at all.

Mr. Armstrong.—Mr. Chairman, this room is very close and the atmosphere oppressive, we have a large number in here and the room is not large, and I would move that we adjourn for 15 minutes.

Mr. Wilmot.—Very well, it is rather close here, this Commission is adjourned for 15 minutes.

Intermission.

The Commission resumed business at 4 p.m.

Mr. Fader.—Mr. Chairman, before you proceed with a fresh witness I would like to be allowed to state that I think fishermen holding salt-water licenses should be allowed to come inside of the boundary to the banks of the sand heads, and persons with fresh-water licenses should not go beyond half way to the straits.

CHARLIE CAPLIN, a Siwash, Chief of the Musquam Indian Band, was duly sworn. Being unable to speak English sufficiently well to give evidence, Mr. John Rose acted as interpreter, and was sworn to translate correctly the questions put to the witness and his replies.

The witness handed in the following note to Mr. Commissioner Armstrong by way of introduction: —

"W. J. Armstrong, Esq.,

"Dear Sir,—The bearer of this is the Tiee of the Musquam Indians and wishes to express his grievance to you with regard to getting fishing licenses, &c., for himself and his Indians.

"He seems rather excited, and, if possible, I wish you could give him a hearing.

"Yours respectfully,

(Signed) "JAMES WISE.

"New Westminster, B.C., 23rd February, 1892."

By Mr. Wilmot:

Q. Well, what is it the chief wants?—A. (After being interpreted.) He wants to tell you that it is about licenses—there are lots of Indians on the same ranch as himself and they can't get licenses.

Q. How is it they cannot get licenses?—A. He says he don't know what is the reason, but it has been for lots of times—some Indians get licenses, but he could never get one.

Q. Ask him how many Indians get licenses?—A. Ten Indians get licenses on his ranch.

By Mr. Armstrong:

Q. Ten Indians of his tribe?—A. Ten only.

By Mr. Wilmot:

Q. Where do they fish when they get licenses?—A. They fish always on the North Arm of the Fraser.

Q. What do they fish with?—A. With gill-nets, the same as whitemen.

Q. They follow the same regulations as are given by the department for whitemen?—A. Yes, sir.

Q. Do they pay the same fee?—A. Just the same, sir.

Q. Do they fish for their own use, or for sale to canneries?—A. They fish for sale to the canneries.

Q. Are there many other Indians besides these ten who fish for the canneries, without licenses?—A. Ten more fish for the canneries without licenses.

Q. How do they fish without licenses?—A. They work by the day, sir.

Q. Do any work on shares?—A. They always work by the day.

Q. What usual price per day do they get?—A. $2 for a net-man, and $1.50 for a boat-puller.

Q. The principal grievance is then that more Indians cannot get licenses to fish on their own account?—A. He grumbles also about the depth of the nets; he thinks they are killing salmon too fast down at the mouth of the river.

Q. Does that apply to canneries and fishermen as well?—A. Well, he says it is not right that one should be deep and the other shallow fishing in the same waters.

Q. What kind of net does his ten Indians fish with who have licenses?—A. Twenty-five mesh-nets; generally thirty is about the run.

Q. How many meshes deep are the nets that he says are too deep?—A. Most of the whitemen use fifty-mesh nets.

Q. They don't generally work in the same waters as whitemen?—A. Oh, yes; all fish in the same waters.

Q. They fished in the north arm of the Fraser?—A. Yes.

Q. All the ten Indians fished there?—A. Yes, sir.

Q. How far do they fish out from the mouth of the north arm into the Straits?—A. About a quarter of a mile from the mouth, off the Island.

Q. From Sea Island? How far out from Sea Island do they fish?—A. They go out about two miles from the island.

Q. What would be the average of salmon caught by each Indian in a season?—A. Last summer one of them caught 5,000 during the season.

Q. Would all be sockeyes?—A. All sockeyes.

Q. Is not 5,000 a large number?—A. Yes; quite a large number.

Q. They would not average that?—A. No, sir.

Q. What do they get per fish?—A. $15 a hundred last year, and $10 a hundred the year before.

Q. Do they fish for any special cannery?—A. Mr. Todd's and Mr. Munn's

Q. Where are their canneries?—A. Mr. Todd's is on the north arm, and Mr. Mann's on Sea Island.

Q. Are there any others on the north arm besides these?—A. There is a new cannery going up there.

Q. Todd's and Munn's are close together, are they?—A. No, sir; they are some piece away, but they fish together. Mr. Munn's is on Sea Island, and Mr. Todd's on the north arm.

Q. Where is the newly built one?—A. On Lulu Island.

Q. Then does this Indian think that these deep nets are too destructive to salmon—A. That is their idea; all the Indians think they are too deep.

Q. Ask him if the nets drag near the bottom?—A. Yes; they do.

Q. Do you know the difference between a seine and a gill-net?—A. Yes; but seines are no good for salmon in the Fraser.

Q. Ask him if the working of deep gill-nets has practically the same effect as seines?—A. Oh, these both kill the salmon the same.

Q. Ask him if the salmon are scarcer or more numerous now than years ago?—A. He says they are nothing now to what they were when he was a boy.

Q. What reason does he give for that?—A. He thinks the nets are too long and it stops the salmon from going up and has a tendency to kill them all.

Q. What does he think the salmon goes up the river for?—A. He knows well what they come in for—they come in to lay their eggs up the rivers and he doesn't want to see them killed off.

Q. Does he think the amount of fishing now, if continued, would seriously injure the river fish?—A. He thinks it will in course of time if the long nets are kept going—it will destroy the salmon in time.

Q. Has he seen many dead salmon far up in rivers or in lakes?—A. Yes; he has seen lots of dead salmon up the creeks, some floating, some half-dead, &c.

Q. At what season of the year would he see them floating and half-dead?—A. He could hardly tell that, sir, they go by the moon—he says he don't like to see the salmon killed and thrown into the river after caught.

Q. Ask him whether he knows if a large number are thrown into the river?—A. He thinks all fishermen do it—when fishermen have a great quantity and canners cannot take them, they throw them overboard.

Q. Is it true that fish not adapted for the canneries are given to the Indians?—A. Yes, sir; all they require and can take away.

Q. Are the quantities so large that Indians cannot take them away, and are the rest thrown away?—A. If it is not good the Indians will not take it but throw it away.

Q. To what extent, so far as numbers go, has he seen thrown away at one time?—A. If very plentiful they do it, but if not very plentiful they take care of them.

Q. Has he seen as many as a boat-load thrown away at any one time?—A. He has seen them thrown from a boat, but they are generally on the wharfs.

Q. What does he call a boat-load?—A. Oh, he says he does not see the fish thrown in—he sees them in the water.

Q. Does he think that injurious, and the offal, does he think that injurious to fish or to Whitemen?—A. He thinks it injurious to the salmon because the siwashes never throw the guts, &c., in the water because the salmon will not cross the deposits of offal in the river.

Q. How does it effect the water for the Indian or whitemen to use?—A. He thinks everybody on the Fraser River will get sick if it is continued to be thrown in the water.

Q. Would it be wise on the part of the authorities to prevent offal going into the water?—A. He thinks it would be good if they were not thrown in.

Q. Has offal created any sickness or disease amongst the Indians?—A. He says he thinks some of them get sick by drinking the water.

Q. About the early run of fish called spring salmon do they catch them principally for market, or all sockeye?—A. They don't fish generally for spring salmon.

Q. Ask him whether as a tribe do they consider the spring salmon or the sockeye the best for ther own use?—A. They would rather have the spring salmon for their food than the sockeye—some Indians will not look at the sockeye to eat—they don't like them.

By Mr. Wilmot :

Q. Ask him whether before the canneries were established here or the big fishing business commenced, they caught sockeyes to any extent at all, or preferred catching the other salmon for their purposes?—A. They always catch spring salmon for their own use.

Q. Ask him if he thinks it right to prevent fishing on Sunday?—A. He thinks fishing on Sunday should be stopped.

Q. Is it right for the licenses when obtained by companies or others, that they should be re-sold or bartered to the Indians or any one else?—A. I can't make him understand that sir.

Q. Oh, well ask him what time in the year do the spring salmon spawn up the rivers?—A. Towards the fall.

Q. And the sockeye and the spring salmon, do they all spawn at the same time?—A. Yes; he thinks they spawn about the same time.

Q. Do cohoes and humpbacks spawn about the same time as the others?—A. Yes; he has seen lots of those up the river spawning at the same time.

Q. Then does he think that all salmon go up river to spawn at or about the same time?—A. He thinks they do spawn about the same time.

Q. Could he answer what month. A. No; they go by moons—I could not calculate that.

Q. Are Indians of the belief that all salmon die and none return down?—A. He thinks they never return—about one-half stay in the river swimming about until they die—he thinks some return to the sea again.

Q. Has he ever seen any salmon going down the Fraser River or the North Arm a long time after the fishing season was over?—A. He does see salmon going down, and he thinks about half of them go down to salt water after they have spawned.

Q. Ask him that again to be sure?—A. Yes, he has seen them lots of times going down, and about half, he thinks, goes down.

Q. Have Indians applied to pay for licenses? Do all want licenses?—A. Yes, they all want licenses.

Q. Would they make more money than fishing for canneries or otherwise?—A. Yes, they would make more money with a license.

By Mr. Armstrong :

Q. Have the ten who have licenses, have they boats of their own?—A. Yes, they have.

By Mr. Wilmot :

Q. And fish independently?—A. Yes; they buy nets from the canneries.

Q. Can they make their own nets or boats?—A. Oh, yes; there was no one else here years ago but the Indians.

Q. How many are there of his band?—A. 34 belong to his ranch—that is, able-bodied Indians.

Q. Do they consider it safe to fish directly at the mouths of rivers?—A. He thinks about one-half the salmon are caught in that way.

Mr. Wilmot.—Have you anything further to ask, Mr. Armstrong?

Mr. Armstrong.—No; I think you have covered all the points.

Mr. Wilmot.—Tell him we are much obliged to him; that will do. We are obliged to you, sir, for your services as interpreter.

FRANK WRIGHT, of New Westminster, a native of Ontario, a fish dealer and exporter, living in British Columbia for six years, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, what have you to state?—A. Well, I have been in the fish business about four years in the province, about two years in New Westminster, and there are two opposition markets here and one had ten licenses.

Q. What do you mean by opposition markets?—A. People engaged in the same business as myself. I represent Wright Brothers.

Q. And the other firm?—A. W. H. Vienna, there is another market, too, Mr. Lord.

Q. Do you send fish away in ice?—A. In ice.

Q. Where are the markets you send to?—A. New York and Boston, and Manitoba and the eastern provinces.

Q. What may have been the extent of business in any one year?—A. Well, we have been so handicapped by not getting licenses that we have practically no business.

Q. Do other companies get licenses?—A. Port gets ten and Lord gets two but we get none, we applied for them and engaged boats and nets and went to great expense last year in telegraphing to Ottawa for licenses, but could not get them.

Q. Do Lord and Vienna—do they fish practically themselves?—A. Well, they do fish some of their own boats—we depend principally on the spring run of fish—the others are not so good for export—we depend principally upon these, though not wholly.

Q. What other fish do you get?—A. Sockeyes, but they don't do so well.

Q. Sockeyes are used wholly in the canneries?—A. It is used also in the home markets.

Q. Dou you catch spring salmon when sockeyes are running?—A. No; we get them later in the season, but not so good then.

Q. Why are they not so good?—A. Because there are more spent fish among them.

Q. What do you mean by "spent" fish?—A. Oh, fish that have spawned.

Q. What season of the year does this take place when they are spent?—A. Well, just after the cohoe run—about the 1st of September.

Q. When these are brought to you to purchase do you find others that are not spawned and eggs still in their bodies?—A. Oh, yes; a great many have been in brackish water so long they get soft and flabby.

Q. Well, now, in regard to these licenses that other persons engaged in the same trade as you—one has ten and the other two—you think they have a superiority over you?—A. Why certainly, when fish begin to run we cannot get any and they had a monopoly for outside boats.

Q. And you were handicapped in this way?—A. Yes; we should have the same licenses, as we are in the same business.

Q. How many licenses would satisfy your trade?—A. Five; we only applied for two, but I think five would be about right.

Q. If you had five licenses would you practically use the boats yourself?—A. Yes, sir.

Q. But you could not use them all unless yon hired them out?—A. Oh, we have unlimited market and capital and would use them by our own men.

Q. On shares?—A. No; not for spring salmon—perhaps for sockeyes.

Q. Would you withdraw boats in the sockeye run?—A. Well, it might pay better if other parties were doing the same.

Q. Do you salt fish at all?—A. No; we deal in salt fish, but we never put any up as yet.

Q. Have you made any observation in connection with offal thrown in the river—whether it is injurious in one sense or another?—A. Well, I don't think it does a great deal of harm, yet it cannot do any good.

Q. What is your view in regard to the limitation of nets to canners and ordinary fishermen—do you think all applicants who are British subjects should get licenses?—A. I think every man who has a boat and net of his own should get a license, but he should be a British subject and a resident.

Q. And that they should be unlimited?—A. Yes.

Q. In regard to canning or other industry, should any be injured or their licenses fixed, what do you think?—A. I think twenty boats quite sufficient for canners.

Q. What is your view regarding the close season, namely that Sunday should not be used for fishing?—A. I think the present close time very good.

Q. You are aware six hours of Sunday is at the present time utiiized for work—what do you think of that?—A. Well, the sockeye run only such a short time, they would have no work on Monday if they did not start till six o'clock Monday.

Q. Have you had anything to do with the coast fisheries or sea fisheries independent of the Fraser River?—A. Yes; I have, when I was in Vancouver I dealt in salt-water fish—in the drying and exporting of cod-fish and other salt-water fish.

Q. What was the result?—A. Halibut pays well but not cod-fish.

Q. Have you any opinion with regard to benefits accruing from artificial breeding here?—A. Yes, I think the present hatchery is a decided success—I think there should be a hatchery also to breed the first run of spring salmon. This export business is just in its infancy now—it is only, you may say, two year old—the largest export last year was ninety cases, that is 720 salmon, and we pay one dollar a piece for them on the river—that is $720 a day to the white fishermen.

Q. The value of the sockeye is what?—A. It averages from 10 to 20 cents.

Q. What is the usual weight of the dollar salmon?—A. It averages from fourteen to sixteen pounds.

Q. And the average sockeye?—A. Seven to eight pounds.

Q. You ship the whole of the spring salmon away?—A. Yes.

Q. Do you clean it at all?—A. No.

Q. Everything is shipped?—A. Yes.

Q. You sell them at so much each?—A. No, we sell by the pound.

Q. What might spring salmon bring you per pound in the New York or Boston markets?—A. The first run brings 25 to 30 cents.

Q. Have you ever shipped any sockeye to these markets?—A. Yes; but they come late in the season, and the first run strikes the markets when there are no other fish there. When you send sockeye the lake fish are in the markets and you get very little for them.

Q. What would sockeye fetch?—A. From eight to fifteen cents per pound.

Q. Then is it a much more profitable business to fishermen on the river at such prices to catch and dispose of spring salmon than sockeye—the ordinary fisherman, I mean?—A, Well, I don't really know; it depends a great deal on the run; sometimes they run forty spring salmon to the day, and 400 or 500 sockeye a day, so it would be about the same thing; the average spring salmon caught would be six to twelve a day.

Q. What colour is the spring salmon?—A. Red.

Q. All red?—A. There are some white ones, but very few on the first run; they come in after the sockeye.

Q. How about the quality?—A. The white are not marketable fish.

Q. Are they marketable later on in the season?—A. They sell here at the first run.

Q. Your object then is all the way through, that you who are engaged in the business of fishing here, should be placed fairly on the same basis as others engaged in the same work?—A. Yes, sir.

Q. Have you any suggestion you would like to make?—A. Yes; I would like to make a suggestion as regards trout. There are two different kinds; one follows the salmon and destroys spawn, and the only time they are valuable is during the close season. They are most valuable in the market from September to March, and I would like to have the season open from the 1st September to 1st March.

Q. Would that not be the very time when spawning?—A. No; they don't spawn until after that; I think they spawn in April.

Q. How do you know that?—A. Because I have examined them and found eggs in them then. They are caught extensively then, but they get discoloured and slimy. I don't think there is anything else about which I wished to speak.

Mr. Armstrong:—We are much obliged to you, sir, if that is all.

JOHN B. MARQUETTE, a native of Ontario, six years in British Columbia, and a resident of Mission City, B. C.—a trader and exporter of fish, was duly sworn.

By Mr. Wilmot:

Q. Do you follow the operations of a trader and exporter?—A. Yes; I am both a trader, salter, and exporter.

Q. Where is your place of business?—A. At Well's Landing—about two miles above Mission Station. I have not been able to obtain a license.

Q. Have you fished on a license lately?—A. I have fished on other men's license.

Q. You have applied for licenses?—A. Yes, sir.

Q. Was any cause given why you should not get one?—A. One time I was informed my application was in too late, although put in in the month of January.

Q. What number of licenses did you apply for?—A. For one.

Q. And in your business as a salter, would one be sufficient?—A. I ought to have from two to five.

Q. Then any work you have carried on, it has been depending upon getting your fish from other parties?—A. Yes; I got the use of other parties' licenses and furnished boats and men.

Q. Did you have to pay anything in excess of the licenses fee?—A. One I had to pay twenty dollars fee and another I had to pay more for—the one I got for twenty dollars was for only part of the season.

Q. What was the amount you paid for the other?—A. Thirty dollars.

Q. What was the man doing from whom you bought the license?—A. He has been carrying on business for some years and sold out to me—his warehouse and outfits, &c.

By Mr. Armstrong:

Q. Where do you fish?—A. Right at Well's Landing, at a place called Nicomen Slough.

By Mr. Wilmot:

Q. The fish that you catch in this lake—what are they like?—A. I never fish in a lake—it is in the main Fraser.

Q. Do you find the quality of the fish there as good as at the mouth of the river?—A. I don't see any difference.

Q. What quantity would a boat get there fishing in a day?—A. Oh, last year's run was not very good. We would get from five and six to eighteen and twenty—sometimes more and sometimes less—that was spring salmon—I have caught over eleven hundred sockeye in eight hours. Some sockeye I shipped and others I salted.

Q. Where did you ship the sockeyes?—A. To Montreal.

Q. Did you find a ready sale?—A. Yes, sir.

Q. How did they sell compared with spring salmon?—A. Not as good—they don't take as well.

Q. You don't freeze them?—A. No; we pack them in ice.

Q. Is the demand large for these fish, below there?—A. Yes, sir; I had no trouble in finding plenty of markets for mine.

Q. Have you tried the American market?—A. I have shipped to New York—that is the only place in the States I have shipped to.

Q. Have you anything to say about this offal question?—A. That is a thing I know nothing about.

Q. You shipped your fish whole?—A. Yes; except those we salted.

Q. With them did you do like the rest?—A. Yes, we threw it in the river.

Q. Is much fishing done there?—A. Not a great deal.

Q. How is it done up there—by whom?—A. Oh, Indians, half-breeds, and white people.

Q. But the catch is comparatively small?—A. Yes, there are not many employed in the fishery.

By Mr. Armstrong:

Q. Do you think you could catch as many there as farther down?—A. No, I don't think so—not as many as at the mouth of the river.

Q. It has been stated, though, that fish when they get in the mouth of the river, leave the same day?—A. That is not my opinion.

By Mr. Wilmot:

Q. Have you any theory as to how rapidly they migrate up river?—A. Well, I think spring salmon takes longer to get up than the others—I don't think they go over twenty miles in a day.

Q. Have you ever observed that they travel more at night than day time?—A. Yes, I have, and I think they travel more at the turn of the tide than at any other time.

Q. Are there any saw-mills near you?—A. Yes, sir.

Q. Do they throw their sawdust and rubbish in the river?—A. No.

Q. What do they do with it?—A. Well, there is no saw-mill near my place. There is one at Langley and one on Silver Creek—but then this is not on the creek—it is near it, but on dry land.

Q. What do you think of the effects of sawdust if thrown in the water?—A. I think it is very injurious to fish.

Q. Have you anything to say as regards the limitation of the number of nets?—A. I think that *bona fide* dealers and fishermen ought to get licenses.

Q. In what proportion—all alike—one license?—A. Well, no sir; I think a man who is shipping is entitled to more licenses than an ordinary fisherman. I think a man who has nothing more than boat and net—he should not have as many licenses as a man carrying on a large business—still, I don't think it a good plan to grant licenses to everybody, unless a *bona fide* fisherman and owner of his own boat and net.

Q. Would you allow foreigners and others?—A. Well, I think that all should be British subjects and residents for some time before they apply for licenses.

By Mr. Armstrong:

Q. What do you think of allowing farmers licenses at a cheap rate for their own consumption?—A. Well, there is an obstacle to that—the farmer cannot go and buy a boat and net as cheap as he can buy the fish, however, I think the most of the farmers' licenses are proper.

By Mr. Wilmot:

Q. But, if he wants to get a stock of fish for his own use?—A. Oh, well, I think he should be able to get that without a license, but if there was a licensed man there he should buy fish from him, but if he gets a boat and net of his own, he should be allowed to catch fish for his family by all means.

Q. What number of licenses would you say for Canneries?—A. Well, that is something on which I am not posted. They should, I think, get licenses according to their size and capacity.

Q. But if all of the same capacity, what would be a fair average?—A. Well, if every British subject and fisherman got licenses, I think the cannerymen would not fret whether they had one or three dozen.

By Mr. Armstrong:

Q. On the same ground the exporter would not either?—A. No; on the same ground he would not.

By Mr. Wilmot :

Q. On the principle of two or five licenses being sufficient for your demand, you think in what proportion should licenses be granted to canners?—A. I think twenty a reasonable limit.

Q. Do you think the present close season right?—A. Not exactly; I think we should fish week days and keep the whole of Sunday.

Q. Have you taken any notice of the effect of artificial breeding of fish on this river?—A. I have, some.

Q. What do you think of the system of hatching by artificial means on the river?—A. A good thing and a success, to a certain extent.

Q. Would it be much more successful if largely increased?—A. I think it would, and be beneficial to the province.

Q. Have you taken notice of dead fish in the river to any extent?—A. Yes, I have seen a great many.

Q. In what season?—A. September and October.

Q. What is your theory as to the cause of death?—A. Well, they get up in small lakes and shallow waters and they fight and kill one another—I have seen the greatest quantity in Harrison Lake.

Q. Do you think all fish that go up river die?—A. No; I don't—I think very few of the spring salmon die, you will see very few of them dead—more of the sockeye and humpbacks.

Q. They are very numerous both in going up and dying?—A. Yes; I may say I think white salmon is made so by being longer in the river. I have cut them open on the back and the first half inch wonld be perfectly white and farther in and around the back-bone would be perfectly red.

Q. And white salmon of the spring species, would you call those fish in good condition or otherwise?—A. Early in the season spring salmon are in good condition—I think they remain in the river all winter, having gone up in the autumn of the previous year. I have seen them caught in nearly all the months of the year by the Indians.

Q. Then you think white salmon is really red salmon in the sea, and it changes its colour in the river—do you think it is the same as the sockeye?—A. Yes; but sockeyes stay in a shorter time—the cohoe turns white, too, and the humpback is always of a lighter colour, and the dog-fish are red when they first come in.

Q. What about the steel-head?—A. Well, I never saw one white-fleshed, and I have seen them caught in every month of the year. The principal time for them to spawn is, I think, in March and April, after which they are spent fish and very poor.

Q. Are you of the opinion that these fish, too, have gone up the year previous and would be in best condition just previous to the commencement of this spawning time you speak of?—A. Yes, and they must have come in in January and February.

Q. You have seen them, too, opened?—A. Yes, sir.

Q. And as many eggs as the spring salmon?—A. No; I think not.

By Mr. Armstrong :

Q. What is your opinion as regards the limit for fishing—it is now tidal water—should it be reduced any?—A. Well, there is no fishing that I know of done as far up as tidal water—tidal water goes to Harrison River.

By Mr. Armstrong :

Q. Oh, no, the tide never goes above the rapids at Miller's Landing?—A. Well, I have been told it does. Sumas Lake is tidal water is it not.

Q. Yes, but that comes in below?—A. Well, I have been told that they have three inches of tide at the mouth of the Harrison River.

By Mr. Wilmot :

Q. How far does the ordinary fisherman fish up river to supply fish to the canneries below?—A. None above Well's Landing.

Q. Then are boats engaged in fishing all the way up from New Westminster to take fish down to the canneries?—A. Well, at certain places—many places are not good fishing grounds.

Q. And where it is good fishing grounds?—A. Well, there is fishing there.

Q. Is there anything further you would wish to state?—A. No, I think not.

Q. Have you anything further to ask Mr. Armstrong?—A. Mr. Armstrong, no, nothing more.

By Mr. Wilmot:

Very well, that will do.

The Commission adjourned at 5.58 p.m.,to meet again at the same place at 10 a.m., the following day.

New Westminster, B.C., 24th February, 1892.

Fifth day's Session.

The Commission assembled in the Court-house and was called to order by the chair at 10 a.m.

Present:

Mr. Wilmot (presiding), Mr. Sheriff Armstrong, Mr. C. F. Winter (Secretary.)

MARSHALL M. ENGLISH, of New Westminster, a native of the United States, though residing in New Westminster for the last 15 years, engaged in the salmon canning business, indirectly representing the local board of management of the Anglo-British Columbia Canning Co., representing eleven canneries in British Columbia, was duly sworn.

Mr. Wilmot.—Have you any statement to make?

By Mr. Armstrong:

Q. You represent eleven canneries, Mr. English?—A. Yes, sir; two up north and nine on this river.

By Mr. Wilmot:

Q. Do you wish to submit anything?—A. Not at present. The canning industry on this river is a big one and no two years are alike—there is a rotation of four years, and the number of boats that will answer for one season will be very much out of proportion in another. I think the cannerymen should have at least 25 boats and have it made a fixture, and not changed from one year to another.

Q. Not less than 25, and it should be a fixed number?—A. Yes, not less than 25 and a fixed number—we are handled differently by the department from year to year.

Q. Would you advocate all and every cannery to get twenty-five?—A. Well, I don't know as you could do anything else.

Q. No restrictions?—A. Well, it would rest with the department. I would not recommend one way or the other—I don't think that those who have been in business for a number of years should suffer for the building up of others.

Q. Then that would be, no new canneries would be allowed?—A. Well, that would be at the disposition of the department—it would make no difference if we were not cut down for building up others—if a limitation on the river, then those who established the industry should be protected first.

Q. Would twenty-five licenses do that?—A. Yes; with outside licenses, they should, I think.

Q. But, would twenty-five licenses, if permanent, sufficiently protect you?—A. Well, while it would that far, I don't think twenty-five licenses enough for any cannery.

Q. But a sufficient protection?—A. Well, it would be a protection, of course.

Q. Are the companies that you have acted as agent or manager for wholly on the Fraser River?—A. No, sir; two on the Skeena and nine here.

Q. What is the capacity of these canneries generally—in ordinary average seasons?—A. Well, I think that all of them are capable of 25,000 cases and upwards.

Q. And would twenty-five licenses give to these canneries sufficient fish for 20,000 cases?—A. No, sir.

Q. Would it give them 15,000 cases?—A. No, sir.

Q. Would it give them 10,000?—A. On an average I don't know that it would—it might. Now, as an illustration, I packed in two canneries this year, the Phoenix and another and with twenty boats packed about 7,000 cases. I don't think twenty-five boats would average over 10,000 cases. Take four years ago, I packed, with twenty-seven boats, 4,000 cases—that was in 1888; in 1889 I had about thirty-five boats and packed something over 20,000 cases, in 1890 I had thirty-two boats and packed between 14,000 and 15,000 cases, I am speaking of my own property all that time, in 1891 I packed about six or seven thousand.

Q. Do you recollect how many licenses you had in 1890?—A. In 1890 I think I had twenty licenses, and twenty-four in 1889—the additional boats were got from outside. We always used outside boats, even when the river was open—the average number of boats fished by the canneries was about forty.

Q. How many in 1889?—A. Twenty-four were allotted me in 1889.

Q. Twenty the standard, and four allotted to you?—A. No; the balance was proportioned *pro rata* to capacity.

Q. Then you got four *pro rata*?—A. It was only the one year. The Government increased the number in 1889. They tried to make the limitation on the basis of capacity and gave Mr. Ewen thirty-nine boats and the British Columbia cannery were allotted twenty-four.

Q. That was nineteen over the twenty, and you got four over the twenty?—A. Yes; some got eighteen, some got twenty, it was worked up on the basis of what each cannery had packed for so many years.

Q. In 1889 then you had twenty-four licenses?—A. Yes; twenty-four—I think I used thirty-two or thirty-three boats.

A. And your pack was 20,000 cases?—A. Something over 20,000.

Q. Who is "English & Company?"—A. That is my cannery.

Q. I see two names here (B. C. Board of Trade Report, 1890,) "English & Co.," and "The Phoenix Packing Co.?"—A. I am connected with both of them.

Q. Well, that is one and the same thing?—A. Well, I never called it the "Phoenix" Company—it was in the hands of W. D. Coleman for a year or two, and I think they called it the "Phoenix" Company—the brand was the "Phoenix" brand. English & Co., worked from 1877 to 1884, inclusive, then we came in again in 1888, 1889 and 1890. In 1882 I operated over here, right opposite the city.

Q. In 1889 your pack was over 20,000 cases?—A. Something over twenty thousand in 1889—four licenses over the standard number.

Q. In 1890 you say you had twenty licenses—and how many outside boats did you get?—A. I think I had eleven or twelve.

Q. And your pack?—A. Something about 14,000 cases.

Q. Is that a fair average?—A. You take the four seasons and I think it is a fair average.

Q. For the eleven establishments you are now manager of?—A. I think so—I think any one would pack over 20,000, if they had more storage room they might pack 25,000. When the river was open we fished forty boats, we always took outside boats and employed outside fishermen besides the forty of our own—what was the position? We in many cases furnished them with gear, boats, &c., and took payment out in fish.

Q. Were you fishing in 1877?—A. Yes; I packed then about 25,000 cases—there was then only five canneries on the river.

Q. What number of boats did you use then?—A. Well, I don't say we had forty boats and upwards and I could not say how many we had besides, we also had a trap in

the river which the department made us take up. We also took fish from Harrison River and at Yale.

Q. How late did you fish in the Harrison River?—A. Up to September, we followed the fish up after they left here.

Q. What condition were the fish in then?—A. Harrison River fish were very good, the Yale fish were not so good.

Q. Were the fish then in appearance very large as regards spawning?—A. No; but towards the last many would begin to get discoloured and then we moved down the river.

Q. You fish as long as you could for the sockeye and then when you found you were not catching them as numerous as you wanted you followed them up the Harrison and Yale?—A. Yes; but we didn't catch very many, we could not get them down from there.

Q. That is now prevented?—A. Yes; I think it a good thing, too—there was no profit in getting them up there. We bought fish from Indians at $4 a hundred or whatever we could get them for, once a steamer brought down thirty thousand.

Q. All caught by Indians in dip-nets?—A. Yes; in the eddies.

Q. And in 1877 you had 25,000 cases, how many fish to the case then?—A. About the same as now.

Q. What do you call a general average?—A. Well, it is according to the season, the average one season with another would be ten or eleven fish to a case. I packed one season—I think in 1884—the run was a light one and fish averaged ten or eleven to the case.

Q. That is a case of forty-eight one pound tins? Forty-eight pounds?—A. Yes, sir; sometimes they run more and some less—last year they would take fourteen to the case in the early part of the run.

Q. But the general average would be from ten to eleven to a case?—A. I think so.

Q. The average weight of fish then would be between seven and eight pounds?—A. Well, I think about seven or under.

Q. Because most of your brother canners have stated they run from seven to eight pounds?

By Mr. Armstrong:

Q. Did you ever weigh the sockeye?—A. No; I do not think I ever did. I have weighed most of the other kinds, but we would not weigh a sockeye unless an extra large one.

Q. But if a person stated they weighed about eight pounds would he not be about correct?—A. I should think the sockeye would average seven pounds or so. A man could pick up ten fish that would weigh eight and a-half pounds, and then they might not weigh only four.

Q. Were fish small in 1890?—A. Fish were small that year.

Q. In 1889?—A. They were smaller—in 1888 they were larger—they are always larger in an off year.

Q. What was the great year?—A. 1877, 1881, 1885 and 1889—1882 and 1890 were exceedingly fine years also.

Q. They don't give you credit for fish in 1885?—A. No; we did not pack in 1885.

Q. Why?—A. Well, we could not get anything for them.

Q. It was not because the fish were not there?—A. Oh, no.

Q. What about the Wellington Packing Company?—A. Well, they are capable of packing over 20,000 cases—they generally pack 25,000.

Q. Well, they never packed that many, except in that one year?—A. What did they pack in 1889?

By Mr. Wilmot:

Q. They packed 20,000 then?—A. Yes; I thought so.

Q. But in 1886 11,000; 1888, 7,000; and in 1889, 20,000. Do off years generally average about the same thing?—A. Yes; as far as I know—1889 and 1890 were good, and 1881 and 1882 were fairly good.

Q. How do you account for "off" years?—A. Well, I don't know; I have thought about it, but the more you think about it the less you know about it; it occurred before I came to the country, and I have talked to Indians and they say it occurred before they were boys.

Q. Does this apply to all the rivers of British Columbia?—A. Well, I think the Skeena is different.

By Mr. Armstrong:

Q. Do you think fish are not as early as before?—A. Well, I don't know; there is no change. In 1882 they came in on the 1st of July, and in 1877 on the 20th and 22nd of July.

Q. What time last year?—A. Near the end of July; the last two or three years they have been late, but whether it is the general rule or not I cannot tell.

By Mr. Wilmot:

Q. Then what years do you say were off years?—A. 1883 and 1884; 1885 was a good year; 1886 was a very light year for a second year, and 1887 and 1888 light years.

Q. Do you recollect what 1882 was?—A. 1882 was a very heavy year for a second year, and 1885 should have been the next big year.

Q. The biggest year was 1882?—A. No; but fish ran up longer. 1881 was a good regular season. I ran two canneries in 1882 myself.

Q. Well, take 1886, 1887 and 1889, about the same number of canneries were running then?—A. No; I think there has been an increase; I don't know that there was an increase in 1887 and 1888. 1886, 1887 and 1888 were off years.

Q. 1885 was a good year then?—A. 1885 was an excellent year, but the canneries did not run.

Q. How did you know that it was a good year if you did not catch fish?—A. Well, there were several canneries running; I think Mr. Ewen packed 20,000 cases. I have no theory for off and heavy years; I don't think anybody can tell. We know fish come in and spawn and then young fish go out, but that is about all we can tell. They are never seen at sea.

Q. They are caught at sea, though?—A. Well, I have been told they are never seen.

Q. You would not call the Georgia Straits then a sea?—A. Oh, no; we know all fish coming are seen as they enter the Straits of Fuca, but they are never seen outside, nor ten miles outside there, but the moment they enter the Straits they are seen, and the Indians begin to catch them then.

Q. But the three last years have been pretty good?—A. Yes; a good average.

Q. Did you look forward to 1889 as being a good year?—A. Yes, sir.

Q. It was a late run, was it not?—A. Yes; they came in late and ran late; they were running after we closed down.

Q. And what do you think of the coming year?—A. Oh, an off year; a very poor year, but last year we got more fish than we expected.

Q. And you look forward to 1893?—A. As a heavy year; but the last two poor years have been exceedingly good.

Q. In 1889, which you called a first-class year, the pack was 414,294 cases; in 1890, 409,464 cases; that was not much of a falling off from 1889?—A. I think it is, however, about 330,000 in 1890, about 90,000 cases less than the former year.

Q. And of the 409,464 cases, 241,889 of them were taken in the the Fraser River in 1890—more than half of the whole?—A. Yes; last year the Fraser River pack was about 165,000 cases; your reports are not just exactly correct.

Q. But we got the information from the canners themselves?—A. Oh, well, a variation of a few thousand cases would not make much difference; a man may give in a few more cases than he should.

Q. Oh, I always thought they were disposed to give rather less than more?—A. Oh, Mr. Wilmot, the canners are not disposed to give anything lower; they are not afraid of anything that way.

Q. What do you say of licenses being granted to all British subjects, resident fishermen in the country?—A. I would not object to any of them getting licenses; but I don't know anything about it; I have got nothing to do with it. I think it is for this commission to find out whether they should have any. I think I would give them all a license.

Q. But I think you equally bound to answer even if the question regards the canneries or fishermen?— A. Oh, well, I think each fishermen should get a license.

Q. Should they be given to all applicants, or to British subjects, residents of the country?—A. Oh, to British subjects, residents of the country; I don't think every one should come in here and get a license; I think in the United States they follow that plan.

Q. What is your view in regard to canneries being limited, instead of twenty-five licenses to twenty or fifteen?—A. Well, I think it would hamper their business.

Q. From being so exclusive as at present? If fifteen or twenty licenses is the maximum would you not be able to get sufficient fish to supply the canneries from the outside fishermen?—A. I don't think so; I think a canneryman should have a sufficient number of boats to protect his industry.

Q. But if you had no licenses you would get all the fish you want?—A. Well, I would not like to be in the business; if we have licenses we know what we can rely on.

Q. If any limit is made, what limit would you say to the number of boats permitted to fish on the Fraser River?—A. Oh, I don't know.

Q. But you stated you think we should give unlimited licenses?—A. Well, I don't think it would increase the number of licenses very much; everybody is not going up to apply for licenses; I think there was 900 or over in 1882.

Q. That was a good year too?—A. Yes; it was a second year but an extraordinary good year; I think there was about 900 boats—something like that—I know there was a very large number.

Q. But then the limit of late, the outside limit of all has been from five to six hundred?—A. I think so.

Q. And that only admitted of about sixty or so outside white fishermen to use boats?—A. Oh, there was more than that.

Mr. McNab.—Not over that, for you see out of the hundred or rather hundred and fifty, three freezers had thirty and then forty went to the Indians.

Mr. English.—Well, there was about seventy white men, do you draw the line at colour?

By Mr. Wilmot:

Q. Well you do in fish—you put up nothing but red salmon (laughter) however, do you think Indians entitled to fish and get licenses?—I do certainly—the same as other men.

Q. Are they not employed in the canneries—do you not employ them?—A. Yes; I have one Indian who has fished for me ever since I had a license, but generally I do not think it does Indians any good if all get licenses—I don't think it good to give them too much money.

Q. Then, why do you employ them?—A. Because we have to—we cannot import labour from the east and employ them for one or two months only. These people come from all parts of the country and bring all their belongings and fish for five or six weeks and then go home again—white people would not do this.

Q. Do you furnish Indians with gear and money to get licenses?—A. Oh, yes; we furnish them in everything—grub, nets and everything else.

Q. Is it the habit of sending Indians to the departmental office for licenses, and that the Indians are still under the control of the canneries?—A. Well, I have heard it but don't know of it. I have gone there myself and made application and paid money for licenses for Indians, but only in one or two cases.

Q. Do you employ Indians and whitemen outside of your own boats at day pay, or on shares?—A. Whitemen have a "lay" or share and Indians we pay by day wages.

Q. Do you give them the full market value of the fish?—A. I make a bargain with them before we begin.

Q. What was the price last year?—A. I paid six and ahalf cents and reserved the rest for gear—Mr. Ewen was paying 20 cents.

Q. What did you pay outside licenses?—A. Some I paid twelve and ahalf cents, some fifteen.

Q. Then the difference between these men with a "lay" and outside men would be about one-half?—A. About one-half.

Q. And if these people who had a "lay" had licenses they would have got twelve and a half or fifteen cents?—A. Yes; if I wanted the fish.

Q. Then the difference between men who get licenses and those who do not is one-half?—A. No; he has to get his gear.

Q. But as to the price of fish?—A. Oh, yes; but he may lose a net the first night, if he has a "lay" I have to give him another net.

By Mr. Armstrong:

Q. What is the price of a net and boat?—A. The boat and outfit about $50 or $60, the net about $90.

By Mr. Wilmot:

Q. How long do nets last?—A. Generally only during the sockeye run.

Q. And the outfit for a fisherman would be about $150?—A. I would say from $150 to $175.

Q. Have you taken any observations, or can you express an opinion in regard to the operation of the hatchery and artificial breeding of fish as a benefit to the river?—A. Well, I certainly think it a benefit; I have an idea that the increase in the last three or four years—that the hatchery has something to do with it—of course I don't know, but I don't see, though, how anybody can help thinking it a benefit.

Q. Have you any knowledge if it is a benefit elsewhere on the coast?—A. I know it has been beneficial on the Sacramento River; the fisheries there were totally ruined by mountain deposits covering the spawn, and they were replenished by the McKay Hatchery, and the catch of fresh fish there is now very great.

Q. Then you think artificial breeding of fish an advantage?—A. Why, I certainly do. When first I came to this coast there was no shad—now there is plenty of them on the Pacific coast.

Q. You know, as a matter of fact, that shad are now disposed of in the markets of San Francisco, and that they were not indigenous to the waters of the Pacific?—A. Plenty of them, and there was not a shad here before; I don't think there is any doubt as to the success of the artificial fish culture.

Q. Do you think the system should be extended?—A. Yes; I think there should be hatcheries on the Thompson, Fraser and Harrison Rivers.

Q. Well, now, what do you think of offal?—A. I think the best thing you can do with offal for all concerned is to put it in the river.

Q. As you do at present?—A. Well, it might be improved upon by putting it in deeper water; at present it is put on the bank in some places, but if put in deep water it will be taken away. The canneries are generally built near the water, or over it, so as to accommodate steam-boats coming up to the factory. At my place we have plenty of water; we loaded two ships there this summer.

Q. You are the last cannery down the river?—A. No; there are two below me. I don't think offal can be handled differently; if it can be profitably, cannerymen would be only too glad to handle it, and you cannot do anything by putting it on land; it would drive people out.

Q. Is it not used now in an oil factory?—A. Yes; but I don't think they are doing much with it; the cannerymen would gladly transport it if any one would take it.

Q. Do you think it wise of the Government to encourage capital to come here to dispose of offal?—A. Well, if on the east coast it might be profitable, but I don't think it would be here.

Q. Do you always find packing fish profitable?—A. Well, one year I lost $17,000.

Q. Other years you have made profits?—A. Well, we could not lose all the time; I think I have about as much as I started with, and have got a living all the while.

Q. When you first commenced salmon canning here was it profitable?—A. It was very profitable the first year; the second year it was unprofitable, but we did not understand it.

Q. Well, but don't you think this oil factory would be profitable when they learn how to work it?—A. Well, I don't think there is enough oil in it (*i. e.* the offal) to make it profitable.

Q. Well, but your local Government here is trying to encourage Crofter immigration, and one of the features is this industry of converting the offal into oil, &c., now, would there not be a big field for their operations?—A. Well, there would be lots of offal anyway, but there is not enough oil in offal to work profitably—the oil is in the fish, not in the offal.

Q. Do you know the menhaden or herring of the Atlantic Coast?—A. I know the herring here—I don't know the menhaden.

Q. Well, all along the coast of the United States on the Atlantic seaboard they have sixty or seventy large canning establishments to catch herring for turning them into oil and making fertilizers? A. Well, they would have markets for it there, but I don't think it could be profitably employed here.

Q. What do you think of it (*i. e.*, offal) as regards health?—A. I think for a sanitary purposes it should be put in the river—all light stuff would be eaten by fish. The heads and tails would never rise to the surface—the current is so strong it takes them all out.

Q. If it lodges along the bays and sloughs is it not offensive?—A. Well, sometimes, if decayed—all animal matter is when in that state.

Q. Have you heard of diseases being encouraged by these deposits?—A. I have not heard of it—in 1882 I had camps with four or five hundred persons in it, and Indians, you know, are not generally very clean—whitemen were there too, but I didn't see any sickness resulting from it.

Q. Do you think the white population would be more sensitive to it?—A. Well, they are more sensitive to anything of that kind.

Q. Can you suggest anything to do with this offal?—A. Put it in deep water.

Q. This is not generally done now?—A. No.

Q. Are canners desirous of putting it in deep water?—A. Oh, I think so—it would be a tax upon them but they would have to stand that—they have generally to stand everything that comes along, even the Government.

Q. Is this offal frequently taken in nets at the mouth of the river?—A. Well, I have so heard it stated here, but I never heard it conmplained of—I suppose sometimes they catch a little in their nets.

Q. What makes nets get useless after one season?—A. Slime off fish and the hot weather.

Q. Then if slime off fish and heat of the weather injures nets, would not an additional amount of it injure them more?—A. Well, you don't get much slime from the offal—I never heard any of my men complain—I have had men fishing in the river for the last fifteen years and never heard it.

Q. And then nothing but the heads and tails and bony parts would get in the nets?—A. Yes; nothing else. I have seen Chinamen go with a bucket where the offal was going in and get a bushel and a half of suckers and small fish that were feeding on the offal, in a very short time.

Q. So you think then that offal is not injurious to man, or the fish in the river?—A. No; not if put in the deep river—we had a camp on one side of us and an Indian camp on the other—we drink Fraser River water and my family never had any sickness—but the only way is to put it in the channel of the river.

Q. And you think cannerymen are prepared to do that?—A. I think they are quite willing to do anything that is right.

Q. You know then that it has been contrary to law?—A. Yes; but by permission of the department it has not been contrary to law.

Q. Was the refuse thrown in last year?—A. Yes, sir.

Q. And no permission to do so?—A. Yes; I think so—I think the Minister gave permission to suspend the regulation.

Q. No; not so?—A. Well, I think, if I am not mistaken, the department wrote the Inspector that the throwing in of offal last year would be allowed, like in 1890.

Q. I may say that you are in error in that respect, because I know that it was not granted. You think the only way then is to put it in the deep channel of the river?—A. Yes.

Q. And that there it would be harmless?—A. Well, I don't say it is harmless—it might do good. The Chinamen in the factory are all fat fellows and I think the sweet smell in the cannery makes the cannerymen fat, (laughter.)

Q. Well, you are certainly a good specimen, (laughter) Well, what do you think of the effects of saw-dust in the streams?—A. Well, I think it is injurious—they have laws in the United States to prevent saw-dust going in—I always understood it hurts fish by getting in their gills.

Q. Well, but they also have laws in the United States that offal shall not go into the rivers either?—A. Well, but where do they can anything but oysters.

Q. Washington, Oregon, &c.?—A. Well, but they don't enforce it—I know they throw offal in and I have heard that young salmon hatch from where the offal is thrown in.

Q. Oh, well, that is so far beyond a possibility and next to an absurdity that we will not discuss it—eggs could not be hatched unless ripe?—A. Well, it might have been ripe—I have been told by parties who have seen it that young fish come from where offal was thrown in.

Q. Do you think it a proper principle, that of transferring licenses?—A. Oh well, I don't think it makes any difference to the department whether a man sells his license or not.

Q. The department makes nothing out of it—it is the public?—A. Well, nor to the public—I think perhaps after all it might be better to have licenses not transferable.

Q. What do you think of the equality of fees—should they be alike everywhere?—A. I think they should all be uniform—all the fishermen uniform with canners, and each should be uniform among themselves.

Q. What are your views as to fishing limits on the Fraser River?—A. Well, I don't think that makes any difference to the department—I think things in that line should remain as at present—I dontthink there would beany fishing above Stave River.

Q. But you must not say "any difference to the department;" the department is simply the mouth-piece of the public?—A. But the department is holding this commission for the public.

Q. What do you think of the close season?—A. I think the close season correct, and ample for the protection of the salmon.

Q. What do you think of it from the stand-point of morality?—A. Well, I don't think you should change it; the present Sunday close season is quite right, and a man can be quite good enough from Saturday night until 6 o'clock Sunday night. I have seen men come out of church and pile up hay; I don't think these fellows that are always too good are always the best; there are half a dozen ways of being good; you can be too good, you know.

Q. And you can be too bad?—A. And you can be too bad. (Continuing). I think all these fish, you know, return in the shape of offal, whether they are killed or not (referring to the numbers that die up river.)

Q. You are a member of the Board of Trade?—A. The Board of Trade of Westminster? Yes.

Q. Are you aware of what generally transpires there?—A. No; I am not a good attendant.

Q. It is a public body?—A. It is composed of merchants here.

Q. No; fishermen?—A. Well, not unless you call us fish traders.

Q. Have you read a document from a public officer regarding matters on the Fraser River?—A. Yes; I have read the document.

Q. Are you aware in what it says that exaggerations and misstatements were made? A. Yes; I think it is very much exaggerated, especially the cut you made.

Q. Well, that officer made the statement that five cans were made out of an eight pound salmon?—A. Well, I don't say fish are all eight pounds; some are, but many are less, and then you must remember all the salmon we catch don't go into cans, and the waste as given is too much.

Q. Three pounds out of eight?—A. Well, I don't know that it is; your cut was misleading.

Q. Oh, but I see (looking over report British Columbia Board of Trade), this is from the Board of Trade of Victoria; do you belong to that?—A. No; it is the Board of Westminster I belong to.

Q. Well, here is this statement that that report was exaggerated, and yet every member who has come before us and sworn has borne out those statements. Have you anything else, sir, to say?—A. No; I don't think so at present; if I think of anything again, I will come before you.

Mr. Armstrong.—Yes; if any new matter that is important, it would be a good thing to get one man to represent you in any new matter and let him come before us.

Mr. Wilmot.—Very well, that will do, Mr. English.

Mr. DAVID MELVILLE addressed the Commission, and requested permission to make a statement, which was allowed.

Mr. Melville.—I wished to say that there are eight persons who came to the country—some before me, and some after, from Scotland, who have gone back because they could not get a license.

By Mr. Wilmot:

Q. Are you aware of your own knowledge that they came here to become residents and fish?—A. Yes; two came with me—some applied twice, some three times, and some that were fishermen in Scotland went back to fish there.

Q. You have stuck to it here?—A. Yes.

Q. Do you attribute that to the improper way the licenses are distributed at present?—A. Yes; because we cannot get them.

Q. You have nothing further to say?—A. No; nothing else.

Q. Very well, sir, that will do, your statement is duly recorded.

The Commission was thereupon declared adjourned by the Chairman at 12.15 p.m., to meet again at the same place at 10 a.m., on 25th February.

Mr. Commissioner Wilmot and Mr. Winter, secretary, spent the afternoon in visiting the fish hatchery at Bon Accord, returning to Westminster about 6.30 p.m.

6th Day's Session.

New Westminster, B.C., 25th February, 1892.

The Commission assembled in the Court house and was called to order by the Chair at 10.15 a.m.

Present:—Mr. S. Wilmot, presiding: Mr. Sheriff Armstrong, Mr. C. F. Winter, secretary.

JOHN WAGNER, of New Westminster, a native of Canada, four years resident in British Columbia, and a fisherman, was duly sworn.

By Mr. Wilmot:

Q. Now, Sir, have you anything special to relate?—A. Well, only as regards Captain Grant's license. I understand that it has been stated here that I bought a license from Captain Grant and paid $50 for it.

By Mr. Armstrong :

Q. No ; What has been said is that a man bought a license from Captain Grant and paid him $50 for it ?—A. Well, when I was going down the river fishing Captain Grant and I have been good friends ever since I have been in the country, and he was going away to Vancouver, and would not be able to use his license, and he asked me if I could not arrange with some fisherman to take it on shares, and he told me he would want about the seventh fish for the use of the license, and after I went down I found it very difficult to get any fishermen to give them—they said it was too much—and I looked around for over a week and could not get any one to take it, and in the meanwhile the man who stated it here was a partner of mine, and I reasoned the thing that unless my partner and I took up the license and worked it no one would do so, and we thought it the best thing to go and get a net and rig it up the same as the canneries and take one-third for our share and give two-thirds for running it. I went to Mr. Ladner and got a boat and we gave it to a man to work, but he only caught one humpback or so and I took it away from him, but the other man did better, and when we wound up there was about $90 over, after paying for the net and all. Then when we came up I reasoned with Nellis (?) and thought the least he could give Captain Grant for the use of his license was $50, and thought that he should give $50. Well, he thought it too much, but I thought Captain Grant should get this much, so we took $20, apiece and gave Captain Grant $50.

Q. It is true that he paid you $25 for half of Grant's license ?—A. Oh yes ; out of the $90 the gear made—that is exactly the statement I have to give.

Mr. Grant.—(from the audience). Oh not so, he paid me.

Mr. Armstrong.—No ; he didn't.

Mr. Grant.—Well, I thought that was it.

Mr. Wilmot.—Are you a practical fisherman ?—A. Well, I have been fishing for three years.

Q. With licenses of your own ?—A. Yes, for two years of my own.

Q. Where else have you been fishing ?—A. In the Island of Cape Breton.

Q. Can you give an idea of the quantity of fish taken during each year ?—A. Well, the first year I fished for the British Columbia cannery I think we put in eight thousand fish.

Q. What year was that ?—A. That was three years ago, '89.

Q. A good year ?—A. Yes, sir ; that was a big year here.

Q. What did you catch fishing here that year ?—A. Well, a little over nine thousand—I had a better outfit.

Q. That is you and your help-mate in the boat ?—A. Yes ; we could have taken more, but the canneries limited us—they could not handle them.

Q. Well, but those that they could not handle, what did you do with those ?—A. But we don't fish then, sir.

Q. You were notified before hand ?—A. Yes, sir.

Q. What did you get for fish in '89 ?—A. Ten cents apiece—we had to allow the cannery for the boat and net—we got about six and a half cents.

Q. In '89, however, you got eight thousand fish and sold them for ten cents each ?—A. Yes ; one third to the cannery and six and a half cents to myself and partner.

Q. What was the buying price of fish that year ?—A. 10 cents, sir.

Q. In '90 you had a boat of your own and you caught nine thousand fish ?—A. About 9,000.

Q. How much did you get for those ?—A. Ten cents.

Q. How much in 1891 ?—A. I didn't fish for the canneries at all last year.

Q. Did you fish at all ?—A. Yes ; in the spring, but fish run so bad I could not make wages out of it and having a family I quit it and went to other work.

Q. Do you fish night and day ?—A. Yes : we call it tide work—when the tide suits we go.

Q. When the cannerymen have their own men employed will they work a greater number of hours than ordinary fishermen ?—A. Yes ; I think they do—they go out at an early hour in the morning and again at night.

Q. Then one boat in the cannery has two sets of men to work it, while the ordinary fisherman has but one?—A. Yes, sir.

Q. That is an advantage, then, over ordinary fishermen?—A. Well, I think so.

Q. But would this favour cannerymen, or men working alone?—A. Well, I think cannerymen would have the advantage, because a man has got to sleep some time.

Q. When working in 1890 you caught 9,000 salmon; have you any idea what a boat similarly situated, but working with two sets of men, would have taken in the same time?—A. Well, they should have put in more if working as much as contract men would; they should have caught fully one-third more.

Q. Well now, those eight and nine thousand salmon you caught, what would they average?—A. Well, I think the first year they did not run as large as the second year I fished.

Q. But in 1889—were they big fish?—A. They were mixed; but I think would be about six pounds.

Q. What in 1890?—A. About the same.

Q. Have you ever weighed fish?—A. No, sir.

Q. How do you come to the conclusion that they would be six pounds?—A. Well, we never weigh them; we count them when giving them in to the canneries.

Q. Well, would a conclusion of seven or eight pounds be incorrect?—A. No; I would not think so; I never weighed them; I have handled many fish east, and might judge them before, but I could not say exactly about the salmon.

Q. Then your average for three years would be about eight or nine thousand; would that be a fair average for boats working along with you?—A. Yes; I think that would be about the average.

Q. How many have you known to be taken with one boat for a season?—A. I have heard of as high as 11,000 fish taken in one year.

Q. And you think your catch would be about an average for fishermen who were industrious, and while you might get between eight or nine thousand, a cannery boat should have taken between one-third and one-half more?—A. Yes; provided they worked like us.

Q. Did you ever work in a cannery, or about one?—A. No, sir.

Q. Have you formed any idea about offal being thrown in?—A. Well, that is something I never gave much heed to, but if the offal is thrown in where the tide can take it away it would not be injurious, but it would be worse for nets and the fishermen—that is my opinion.

Q. Then it is not thrown into the channel now?—A. Not that I know of; it would be injurious to the nets; we get some of it in the nets now.

Q. Where do you fish?—A. At the mouth of the river, but it was up the river where the offal affected our nets.

Q. Do you know of any unpleasantness, offensiveness, or illness arising from offal being on the shore?—A. Yes; it throws off a very bad smell, but I don't know if it is injurious to health.

Q. Is it better to live in good air than foul?—A. Yes; I think so, but while it makes a bad smell I don't know as it is injurious to health.

Q. Do you think it has any effect on fish?—A. No, sir; I don't think it has any effect.

Q. Do you think saw-dust has a bad effect?—A. Well, I don't know—I know in the rivers at home where saw-dust and refuse from mills has been thrown in, the trout, once plentiful, have been driven away.

Q. Is there any offensive smell from saw-dust in the water?—A. Not that I know of.

Q. Do you know what effects there are from saw-dust in preventing the fish from going up?—A. No, sir; I don't, but I think if saw-dust is thrown in in large amounts, it must effect the fish, and if offal is thrown in it might have some effect perhaps—not on salmon but on other fish—I know, for on cod-fishing grounds if fishermen clean fish and leave it on the grounds, fish will all leave the grounds. I know of some of our best fishing grounds being spoilt by refuse being thrown on the grounds.

Q. And the universal belief down east is that offal effects the fishing grounds?—A. Well, yes.

Q. Is there anything in the water here that would prevent the bad effects found in the east?—A. Well, the water is dirtier here.

Q. And more dirt added to it would help it, you think?—A. I don't think it would help it any.

Q. And do you think residents and British subjects should get licenses?—A. I think that all actual fishermen and residents and British subjects should get licenses.

Q. Would one license be sufficient?—A. Yes; I think so—where so many in the river.

Q. If one licenses would do the ordinary fisherman how many would you say for the largest allowance for a cannery?—A. I don't know, sir; you see I don't understand what it takes to carry their business on.

Q. Well, but if one boat produces 8,000 fish, then if twenty boats were fished at the same ratio that yours was they would get one hundred and sixty thousand fish. Do you know how many fish will make a case of canned fish?—A. No, sir; I have no idea —not the least. I never worked in a cannery—I never saw a case of salmon filled, except by going through a cannery—but that is all.

Q. It is said that it takes about ten or eleven—so that twenty men fishing like yourself that year would have produced 16,000 cases for a cannery at that rate of so many fish?—A. Yes, sir.

Q. Have you any idea with regard to the effect of seining fish—whether seines are more injurious or less injurious for catching fish than gill nets?—A. Oh, yes; we blame seining for destroying the fish on our coasts at home—we used to have abundance of mackerel before Americans came, but after that the fish all left.

Q. What effect would a seine have if drawn at the mouth of a river—(seines)?—A. I think it would be injurious to fishing—it would take more fish than a gill-net, but I don't think it would suit the fishermen here. It takes the fish too much by surprise and the fish get frightened and leave the river. The seine draws everything within its reach —with a gill-net many escape, but the seine takes all kinds, big and little, and even fish they are not fishing for, and fish get killed, die, &c. I have fished about thirty years and think seining more injurious than the gill-net.

Q. Its effect in the mouth of a river—is that very serious?—A. Yes; I think it would be.

Q. Are the mesh of seines and gill-nets about the same size?—A. No, sir; seines have quite a small mesh and take big and little—everything within its reach.

Q. If seines were used for catching salmon along the coasts here, should the meshes be the same as the gill-net, if used for salmon alone?—A. Well, I don't think it would suit—they have generally smaller mesh.

Q. Why a smaller mesh?—A. Well, I have always seen smaller used.

Q. But if a gill-net is used at $5\frac{7}{8}$ for sockeye—a seine with three-inch mesh—would it be more destructive?—A. Yes; it takes so many more small fish—it would take both large and small.

Q. And gill-nets at $5\frac{7}{8}$ would take medium sized all through—a small fish would pass through?—A. Yes.

Q. What do you think of the Sunday close season, do you think it just?—A. Well, fishermen don't think it so well, but it suits cannerymen very well on acconnt of getting away with fish on Saturday and cleaning up the cannery, &c., but it does not suit us fishermen.

Q. Why?—A. Well, we fishermen don't like to leave home Sunday night—the old law suited us better—from Saturday night to Monday morning.

Q. But if the cannerymen did not fish on Saturday and if you fished on Saturday what would you do with the fish?—A. We don't fish on Saturday.

Q. But if you did?—A. Well, if they would not take them why we could not fish for them, but what I alluded to is the fishermen would rather have the old law.

Q. All Sunday a close season?—A. Yes, to twelve o'clock Sunday night would be better.

By Mr. Armstrong:

Q. But if you fished on Saturday and the canneries took fish what would they do with them?—A. Well, they would have to work all day Sunday.

Q. And you only fish half Sunday—don't you think that better than the canneries working all day Sunday?—A. Well, I don't know—I speak from my view—I would prefer keeping the Sunday, if possible.

Q. Do you think it injurious to the canning industry if the close season is made from six o'clock Saturday to six o'clock Monday morning?—A. Well, I don't known.

By Mr. Wilmot:

Q. Otherwise speaking, would they be able to get sufficient salmon from 12 o'clock Sunday night for the canneries to commence business on Monday?—A. Yes, I think they would. I know plenty of fishermen on this river who didn't go fishing until 12 o'clock and yet when they wound up they had just as many fish as those who commenced at 6 o'clock Sunday night. I have had to fish Sunday night myself—we have to do it.

Q. Then you think by having a law which allows one man to fish on Sunday night, it brings other men who don't like to fish into a bad habit?—A. If it can be avoided I think it a bad habit, but if it could be avoided I think it should be avoided.

Q. Have you any ideas as to an annual close season?—A. Well, I am not very well posted on that matter.

Q. Have you made any observations as to the effect of the artificial breeding of fish?—A. No, sir; none.

Q. You know there is a hatchery here—have you any ideas as to its benefit or otherwise?—A. I think it should not be otherwise than a benefit.

Q. Why?—A. Well, I think it would have a tendency to increase fish.

Q. What is your idea as to the value of boat licenses—should one part of the province have a discriminating fee in its favour—should all be alike?—A. I think all should be alike—a man on the Skeena or Naas should be in the same position as one on the Fraser river.

Q. Do you think that applies to canneries as well?—A. Yes, all licenses should be the same.

Q. Have you anything further to state?—A. No, sir.

Mr. Alex. Ewen (speaking from the audience).—I would like to say that this gentleman says he only fished his license a short time in the spring—that goes to show that there are more licenses than are really worked.

Mr. Wilmot.—Well, but the canneries are applying for double the number.

Mr. Ewen.—But it depends on the year—sometimes we don't require them, but often we do. This last witness says he only fished the license a short time—practically it may not have been fished the usual length of time.

(Voice from the audience, Mr. McLashan).—Yes, it was fished.

Mr. Armstrong.—No more interruptions now, please.

Mr. Wilmot.—Well, if the man didn't fish the licenses himself he may have let it out on shares, etc.

Mr. Armstrong.—Don't talk to him—not unless he is under oath. We cannot discuss matters this way.

Mr. Ewen.—I consider I am under oath yet.

Mr. Armstrong.—Well, we don't want any dispute here or any arguments—I will not have it.

Mr. Wilmot.—And I think we should disabuse the minds of gentlemen that because they have taken the oath they are under oath for all time—the oath only applies to the time a man is giving his evidence.

JOHN ROSS, a resident of New Westminster for sixteen years, a native of Great Britain, and a fisherman for sixteen years, was duly sworn.

By Mr. Wilmot:

Have you any special matter, Mr. Ross, that you wish to say in regard to licenses?—A. I have had licenses for the last two years.

Q. Where did you fish?—A. At Sea Island on the North Arm.

Q. What depth of net did you use?—A. Thirty meshes.

Q. Is that the usual net used there?—A. Yes; from twenty-five to thirty meshes.

Q. Is that the same sized mesh net Indians use?—A. Yes.

Q. What quantity of fish have you taken there on an average at that point during a season?—A. I have averaged between three and four thousand sockeye—we fish nothing else but sockeye down there.

Q. Are the fish that you get there disposed of to the canneries?—A. Yes, sir.

Q. What is the usual price?—A. Sometimes ten cents—sometimes fifteen.

Q. What the last two years?—A. Fifteen cents—Mr. Ewen was giving twenty, I believe.

Q. Out of the number of Indians on the ranch down there, what number get licenses?—A. Ten.

Q. And if all obtained licenses?—A. Thirty-four.

Q. Do all want licenses?—A. Yes, sir.

Q. Would it be beneficial?—A. Yes; I think so—if no limitation all should get licenses.

By Mr. Armstrong:

But any Indian with no boat and net?—A. Oh, well, of course if fishermen or Indians have no boats and nets they get them from the canneries and pay for them in fish.

By Mr. Wilmot:

Q. Has a person who gets a license an advantage over those who have not?—A. Yes; of course they have, especially lately—years ago it was different—a man could make more by the day than on a license—that was when the river was open to everybody.

Q. Then men made more wages when the river was open to everybody than when a certain number of licenses was established?—A. Yes, sir.

Q. How have you observed about offal—is it all thrown in at Sea Island?—A. Yes, sir, I don't think it effects fish.

Q. How about men?—A. I don't think it injures anybody—I have been about it for sixteen years.

Q. If the offal law was carried out it would effect you, would it not?—A. I suppose you throw your offal in the same as the canneries?—A. Oh, I don't know as it would—I would just as soon do anything with it if there was a rule.

Q. Is it not easier to throw it in the river?—A. Oh, yes; if a man cleans a fish for himself he just goes down and throws the offal in.

Q. Are fish as plentiful as years ago?—A. I think they are more plentiful.

Q. Can you assign a reason for that?—A. No; I cannot—they are more abundant than years ago.

Q. You catch more of them?—A. Yes; and they are more abundant.

Q. Do you know anything of artificial breeding of fish?—A. No, sir; I don't know anything of that.

Q. Do you think it an advantage to have hatcheries established on the river?—A. I think it would do good in course of time.

Q. What do you think of the Sunday close season?—A. I think there should be a close season—the present one is about right as it is to everybody—the Sunday should be closed.

Q. You have something to do with Indians, have you not?—A. I have had a good deal to do with them since I have been in the country.

Q. You are not officially connected with them in any way—interpreter or anything? —A. No, sir; not at all.

Q. What do you think of granting licenses to everybody who applies for them?—A. I think it fair if there is no limitation.

Q. But if there is a limitation?—A. Oh, British subjects only.

Q. What about transferring licenses, is it right?—A. No, sir; I don't think it is —a man who gets a license should be an actual fisherman and employ his own boat and net.

By Mr. Armstrong:

Q. Don't you think all should get licenses who have a boat and net of their own? —A. I think so—yes.

By Mr. Wilmot:

Q. What is your idea as to the fee for a boat, should it be the same to all fishermen?—A. Yes, all fishermen.

Q. And the same to fishermen and canners?—A. Yes; all the same and the same on all rivers.

Q. You have been delivering fish to canners—have canners any advantage over you or men having a license for one boat by reason of having four men to work a boat?—A. No; I don't think it is.

Q. Then four men don't catch more fish than two?—A. No; they generally don't —men working by the day don't generally catch more than two men working by contract.

Q. But cannot four men relieve one another?—A. Yes; but men working by the day don't work as well as others.

Q. Then a boat with four men cannot catch more fish than a boat with two men? Additional men don't make any difference then?—A. I don't think it makes any difference.

Q. Rather hard on those who hire four men to do two men's work, is it not?—A. No; but they hire Indian labour to get the women and others to work in the cannery.

Q. But would the four wives of the four men be engaged in the cannery?—A. Yes; and the children too.

Q. Have you any idea with regard to the method of fish being put up in the canneries?—A. I don't understand you, sir, I have been around canneries all the while.

Q. Well, do you know of the system pursued when fish are brought to the canneries?—A. Yes, they are brought in scows to the wharf.

Q. What then?—A. They start to clean them on the wharf.

Q. Is it under cover?—A. Yes; they are thrown up from the boats and then cleaned.

Q. Are they just taken out from the pile and cleaned on a table?—A. Yes.

Q. What next occurs?—A. They are headed and gutted and passed over to another crowd—the heads are cut off and then the Klootchies take the fish and gut them—then they go through water and then they are cut up and these go to the salt table.

Q. What is done with the head, tail and entrails?—A. They go down to a crib below the cannery—it goes off the table into a hole and if there is no boat underneath it falls into the river.

Q. Are canneries built on piles?—A. Yes.

Q. The piles are pretty numerous?—A. Yes; but they generally have cribs underneath.

Q. Does the water go through these cribs?—A. Yes; they are made of planks.

Q. Does the water pass through?—A. Yes; the water passes through with the tide.

Q. What is the usual average size of sockeye?—A. From seven to eight pounds—some years they are bigger than others.

Q. When the heads and tails are taken off and the entrails taken out, how is the fish cut in pieces?—A. With a kind of long revolving knife.

Q. Are they cut up to a special size?—A. They are cut to fit the cans.

Q. How many slices of salmon would they get for cans?—A. Well, I could not say—four or five—about that according to the size of the fish.

Q. But fish are all of the same size—very nearly, at least?—A. Well, I suppose so.

Q. Now if any person should say that was not so, they would not be correct, would they?—A. I should not think so.

Q. You are not giving an exaggerated account, are you. It is not misleading?—A. No, sir, I am giving an account as near as I know.

Q. It is very interesting work, is it not, to see a cannery running?—A. Yes, sir.

Q. What probable number of men would you think necessary to carry on the business when you catch four or eight thousand fish?—A. It depends on the size of the cannery—some have as high as 200—sometimes they cannot get the men on any consideration.

Q. Of these 200 what number might be whitemen?—A. Well, some years—Ewen's is as big as any cannery on the river and he employs as many as he can get.

Q. But would there be any others than for the retorts and bosses? How many of these?—A. Oh, eight, ten, twelve—the rest Klotchmen, Indians and Chinamen.

Q. What principally?—A. Principally Chinamen.

By Mr. Armstrong:

Q. Working inside?—A. Yes.

Q. Don't you think there is as many Indian women and Indian boys as Chinamen in some canneries?—A. Well, no; they cannot get them, they get as many as they can.

Q. Then you think about ten whitemen would be the proportion to the average cannery?—A. Yes.

Q. Chinamen—do they fish outside?—A. No, sir.

Q. Indians generally and whitemen?—A. Yes, sir, all colours—all nationalities.

Q. What do you mean by "all nationalities"?—A. Well, Greeks, Italians, Chilians Sandwich Islanders, &c.

Q. Would these be fishing on their own licenses?—A. Most of them fish on their own gear.

Q. Say that a cannery having its 200 persons, employs about ninety inside—they would be Indian women, Chinamen, boys, &c., with about ten men to manage the whole thing inside and a number of boats fishing outside for the cannery would be Italians, Greeks, and others—what would be the proportion of outside foreigners to the 200?—A. Well, I could not answer that. There is quite a number on the river.

Q. Do you ever do any sea fishing?—A. No, sir.

Q. Well, do you think the Indian Chief we had up made a mistake when he said there was not so many fish as there used to be?—A. Well, I don't know, the Indians always say that, but I don't think they really know.

Q. Is there anything else you would like to put in?—A. No; nothing else.

Captain C. GRANT who had given evidence on the 20th February, (p. 81.) was recalled and sworn.

By Mr. Wilmot:

Q. You have been a fishery guardian under the Government?—A. Yes, sir.

Q. What was your beat of operations?—A. From Mr. Ewen's cannery up to Stave River.

Q. Oh, your duties were not below—not down the river?—A. No, sir.

Q. Who is guardian down there?—A. Mr. Green.

Q. In your duties as guardian what course did you pursue to see that boats licensed by the department are only used?—A. The boats are numbered—they have numbers on the sides of the boat.

Q. In starting out at six o'clock Sunday night, what is the course pursued?—A. Well, they get ready with boat and net about four or five o'clock and wait until six.

Q. Do all start out at once?—A. Oh, well, some will get out and lay on the oars ready to start.

Q. How do they know the time?—A. Most of them have watches.

Q. Are you supposed to be there?—A. Yes; I have known a case—three or four years ago—when a man started out at four o'clock. I had him brought up and he was fined accordingly.

Q. Are watches all kept pretty much alike?—A. Well, I would not like to say that.

Q. Have you known of any instance where a boat numbered in 1890 as a certain number would fish with the same or other number in '91?—A. Not as I am aware of.

Q. Are the numbers all put on each year?—A. Yes; I can tell if a number is new.

Q. But suppose a man got No. 18 license in '90 and might get No. 23 in '91—would he change the number?—Well, I don't know if he would.

Q. Well, how do you know if that is his right number?—A. Well, I get a book from the office, and I look at it and see if it is the same number.

By Mr. Armstrong:

Q. And the number of the license don't always correspond with the number on the boat?—A. No, sir; last year I saw a boat which did not agree with the book, and I asked him about it, and he said Mowat had given him the license, and I hauled him up.

Q. But, for instance, if No. 18 was the boat and license last year and he got a license for the same boat this year No. 23, would the boat's number be changed?—A. Oh, yes; he would re-paint the number.

Q. Then the number of the license and the number on the boat corresponds every year?—A. Yes.

By Mr. Wilmot:

Q. You have been a guardian how long?—A. Four years.

Q. During those four years has there been only one conviction for improper numbering?—A. Only two that I have had. I have to settle many quarrels and disputes, &c.

Q. What is the limit they have to fish apart?—A. The length of a net from one another. They very often get one ahead of the other and that is not according to law.

By Mr. Armstrong:

Q. Do they generally leave one-third of the river open?—A. Well, yes; up here they do very well—perhaps not so well lower down.

Q. Is there any other guardian down the river except Mr. Green?—A. Mr. McDonald was last year on the North Arm.

By Mr. Wilmot:

Q. Is that where the Indians fish?—A. It is the Arm on this side—the North Arm of the Fraser River—McDonald was guardian there—he takes in from down below here a piece all the way down to the mouth—I take from Mr. Ewen's cannery up to the head of Harrison Lake—I went up with the steam launch—generally Mr. Ewen's to Mission. I take in Pitt River and Stave River—Pitt River always.

By Mr. Armstrong:

Q. Do you find many violations of the law?—A. No, sir; not many—sometimes little quarrels—they keep to the routine of their business.

By Mr. Wilmot:

Q. You are not troubled then with many infractions of the law?—A. Well, I am around, and these men would rather stop off at the proper time than lose boat and net.

Q. And that was the only case of seizure during your term of service—four years?—A. Yes, sir.

Q. What was the decision of the Magistrate in this case of the boat and net?—A. Well, the man could not speak good English—he pleaded off—I think they telegraphed to Ottawa—I don't know exactly how they settled this.

Q. And was he fined any sum of money?—A. I think he was fined the expenses.

Q. Then the penalty was nothing?—The law is penalty so much and nets confiscated?—A. Oh, yes; I am wrong sir—I took some nets from a man of the name of Lecroix—I was sent up there and I found nets set across a creek, and I went to the Siwash and said what was he doing with nets—he said they were not his and belonged to a man up here, but he said they didn't belong to him, they belonged to the Siwash—and I hauled them (the nets) into the boat and brought them down—so they fined him, and he paid the fine.

Q. Then a system is pursued that a person who offends against the law—as far as your knowledge goes—he may have to pay the penalty of the court but pay no fine.

Mr. Armstrong.—Well, you see the magistrate is generally lenient when a man does not understand English, &c.

By Mr. Wilmot:

Q. Are you aware if any instructions came direct from Ottawa to let the man off?—A. No, sir; I gave it into the hands of the magistrate and he settled it.

Q. Well, what I want to show is persons violating the law they get off as easily as the canners do about the offal—the law is of no avail?—A. Well, I don't know what the reason was—he was sick, I think, too.

Mr. Armstrong.—Well, Mr. Chairman, I cannot agree with you—I think the law as regards fishing is as strictly carried out, as much as in any other country.

Mr. Wilmot.—I can understand that a citizen of the country here would naturally stand up for his mountains.

Mr. Armstrong.—Well, there has been so little violation of the law that there has been few convictions.

By Mr. Wilmot:

Q. How long would it take you to go from Ewen's to the Mission?—A. Oh, four or five hours—it depends on the tide.

Q. Well, how can you tell if Sunday fishing is not done?—A. Well, of course I cannot see all the way at once—I do what I can and often I am out all night.

Q. Well, I only say this to show that it is absurd to have one man to attend to so many miles of river and expect the law to be crrried out— how far is your beat?—A. Forty miles.

Mr. Armstrong.—Oh, of course, it is impossible for him to be here and at Mission at the same time—there should be more guardians.

By Mr. Wilmot:

Q. You are on duty the whole season?—A. No, sir; I used to get on four or five months—this season I was to get seven months.

Q. What time do you commence?—A. About 26th March.

Q. And end when?—A. September—after that I go to the Hatchery.

Q. And how do you get up and down the river?—A. With the steam launch.

Q. It is possible there might be many infractions during the night as regards these numbers on the boats?—A. Well, there might be—I look pretty sharp during the night, but still there might be infractions.

Q. Numbers might be changed and you would not know anything about it?—A. Well, I generally look sharp after them—I know the men and the numbers—I get a book from the department with every man's name and number.

Q. But that does not prevent a man from having two numbers—well, that will do, unless you have something further to ask the witness, Mr. Armstrong?—A. No; I have nothing further.

Mr. Wilmot.—Very well, that will do Captain Grant.

On the request being made by the chairman for any further witnesses now to come forward:

E. A. WADHAMS.—I would prefer giving my evidence to-morrow when Mr. Higgins is here.

By Mr. Wilmot:

Q. Well, I don't think that is right—I think it a reflection upon the Commissioners present?—A. Oh, now; I don't mean that, but I would like Mr. Higgins to be present.

Q. Well, but here are Commissioners appointed to come here, and if Mr. Higgins is not here it is not our fault—suppose Mr. Higgins is not here to-morrow—would you give your evidence at all?—A. Well, I would give it if my evidence is necessary—I only state it as a preference—if it is offensive, why—

Q. Oh, no; it is not offensive—we simply state it because the court is now sitting?—A. Well, I understand that the evidence was given at our convenience somewhat.

Q. No, sir; at the court's convenience—but we cannot delay the court?—A. I don't wish to delay the court—you see we had nothing to do here yesterday afternoon and we heard you were coming here to take evidence to-day.

Mr. ARMSTRONG.—And we now have nothing to go on with this afternoon.

Mr. WILMOT.—And Mr. Higgins cannot get here until two o'clock to-morrow?—A. Well, as regards my own feelings I would prefer giving it before the whole board. I am willing to give it this afternoon—I have stated my wishes in the matter and I now leave myself in your hands, but would it put the Commission to inconvenience if I gave my evidence in Victoria.

Mr. ARMSTRONG.—Well, we do object to taking evidence on Fraser River fisheries in Victoria—I don't see why I should go to Victoria and hear evidence on Fraser River fishing and I am not going to do it if I can possibly avoid it, and I don't think the gentlemen engaged in business here are treating this part of the country fairly in insisting on going to Victoria to give their evidence, (suppressed applause from majority of audience.)

Mr. WILMOT.—Order, order, gentlemen, (continuing to Mr. Wadhams). Because, if a man tells the truth he can tell it here just as well as in Victoria, and if there are any influences being brought to bear it should be avoided and if those influences are at work to prevent a New Westminster man giving evidence here it should be prevented.

Mr. ARMSTRONG.—We would like to have your evidence to-day.

Mr. WADHAMS.—I have been charged with discourtesy, but I don't think it all on one side—I am willing to give my evidence now.

By Mr. Wilmot:

Q. Well, but, Mr. Wadhams, don't say we implied discourtesy?—A. Well, I was charged with discourtesy—I would rather give my evidence to the full board.

Q. Well, but you certainly did throw reflections on the two Commissioners here, for it seemed as if you thought they were incompetent?—A. Well, I will be willing to give evidence this afternoon—I am in the hands of the Commission.

Mr. WILMOT.—Very well—this Commission is adjourned until this afternoon at one o'clock.

The Commission adjourned at 12.10 p.m.

INTERMISSION.

New Westminster, B.C.,
25th February, 1892.

Afternoon Session.

The Commission re-assembled and was called to order at 1.30 p.m.

Present :

Mr. Wilmot, in the chair ; Mr. Sheriff Armstrong ; and the Secretary.

E. A. WADHAMS, a native of the United States, but a resident of British Columbia since 1858, a salmon canner, was duly sworn.

By Mr. Wilmot :

Q. Would you like to put any views before this Commission?—A. Yes ; I would like to put some with respect to what—(hesitating).

Q. General views as regards the salmon industry and fisheries of British Columbia? —A. I prefer first to speak of the weekly close time. As now arranged it is generally acceptable to canners and we think there are reasons why it should not be changed. I think it would be apparent to any one when we commence operations on Monday, to get them (the fish) we have to send out boats on Sunday evening. The close time from six a.m., Saturday, until six p.m., Sunday, is acceptable, and I think extending the close time further would be very detrimental to the canners.

Q. You think it detrimental to Sunday night at twelve o'clock?—A. Yes ; they would have hardly sufficient fish to go on with on Monday, and if we have no fish to go on with on Monday it introduces labour troubles, because the men don't like to lose time on Monday, and if extended to twelve o'clock there would be a great deal of illegal fishing that could not be prevented, and so still more if extended to six a.m. Monday, and aside from that trouble it would introduce labour troubles in the cannery and in this connection I would say that the fishery guardians should be provided with steam launches in order to do effective work—where they only have row boats to get among the fishermen they cannot perform their duties at all.

Q. Then you think the weekly close time a correct one both in the interest of the canners and the community?—A. Yes ; of course some may have conscientious views about going out on Sunday—but canners would respect that—I don't think any one would make any one to go though, of course, it is in their interest to go.

Q. The reason, Mr. Wadhams, why questions are put about Sunday to twelve o'clock is on account of views of persons that Sunday should not be broken—you think for all purposes, however, that it is better as it is?—A. I think so, decidely.

Q. Have you any views as to an annual close season?—A. Well, I think canners would recommend it—that a certain part of the year should be kept as a close season—I don't think it very material in the interest of fish—that is, because most of them have gone up at mid-summer—I think that the recommendation of the canners was that the commencement of the season should be 1st March, ending 25th August, with a $5\frac{3}{4}$ inch mesh, extension measure.

Q. That should be a close season?—A. No ; I have a memo. that I will give—

Q. You mean that would be the open season?—A. Yes.

Q. Then the annual close time?—A. The close season from first November to first March each year was the recommendation of the canners.

Q. For all fish?—A. For salmon.

Q. 1st November to 1st March—a close season for all purposes?—A. Yes ; of course they don't insist upon a close season at all, but that is our recommendation—1st March to 26th August—fishing to be allowed with mesh not less than $5\frac{3}{4}$ inch mesh ;

that from 25th August to 25th September, both days inclusive, fishing be allowed with mesh not less than $7\frac{3}{4}$ inch mesh—and from 25th September to the 1st November, fishing be allowed with nets not less than $5\frac{3}{4}$ inch mesh again.

Q. Will you just explain, Mr. Wadhams, the object of the close season from 25th August to 1st March would it be for all fish? What fish would that cover, do you know, the spring salmon?—A. It would cover the spawning season of a great many of them.

Q. Of the spring salmon? Of the sockeye?—A. I think it would cover the spawning season of all the sockeye that would be caught down here on the lower river—now those that go into the interior on the head waters—it is not known—I would not venture an opinion as to what their spawning season is.

Q. But you think 1st November to 1st March would cover the operations of spring salmon?—A. Yes; and all sockeye that would be in the lower river.

Q. And Humpbacks?—A. Well, we don't consider them anyway.

Q. But they are here and may become an article of food?—A. Well, the close season at that time on the lower river would protect any fish.

Q. But would not 25th August to 1st November cover sockeye?—A. Yes; but that would be a period when we are fishing for spring salmon and not many sockeye would be going up at that time. The sockeye run is generally over on the 25th August.

Q. Then do I understand that spring salmon or "Quinnat"—you begin to catch them between the 25th August and 25th September?—A. Yes; we catch some before the sockeye run and some between the sockeye run and the "Cohoes"—of course they would not bear the use of the spring salmon at any time during the open season.

Q. Do you think that some spring salmon spawn after the first of September?—A. I don't know that.

Q. They usually do elsewhere—that is the reason I ask you?—A. Well, I know that some of them do, but whether all do or not, I don't know.

Q. Well, do you think sockeye spawn after 1st September?—A. A great many do.

Q. As regards the "Cohoe"?—A. They are still later.

Q. They would be protected after the 1st September?—A. Yes; I think protection then would cover the whole of them.

Q. Then why not say no fishing after 1st September for all these fish—would not that cover all? And on that basis the others would have opportunity to spawn—would they not?—A. I think that our view is that the fish that we would catch after the 25th August, although they would not spawn for some time later—they are hardly in condition.

Q. Yes; they are in a pregnant state?—A. Yes.

Q. Then these fish not good for eating, should they not be allowed to escape from all kinds of destruction to benefit the river afterwards? It would not effect the canner to stop fishing after 1st September?—A. Well, the only thing is "Cohoes" come in later—we think the close season of the month would allow of sockeyes that are laggards to go past.

Q. Then do you can large quantities of Cohoes?—A. Not usually—only when there is a scarcity of sockeyes.

Q. And for that purpose you want them free to be caught till the 25th September?—A. Yes.

Q. What proportion of canning establishments deal in Cohoes, or do they use them when sockeyes are plentiful?—A. Not many—last year I don't think any were canned at all.

Q. They are good fish for canning?—A. Ordinarily I don't think they are profitable to can, but with good markets and as we have the outfits we want to use them.

Q. Do they stand second in quality to the sockeye for commercial purposes?—A. Yes; about that—that is they are not equally as good.

Q. Is a large trade in regard to spring salmon done from 25th August to 25th September?—A. Not a large business, but some years they run more plentiful than others, and if plentiful several canneries usually pack them.

Q. Was it not the desire of canners that the system of artificial breeding should be applied to "Quinnat" at first?—A. I think so, but I think views varied on that point

—my own views were that sockeye were our principal fish and that chief attention should be given to them because of their uniformity of colour—I think some think more notice should be given to spring salmon.

Q. On the Columbia River is not spring salmon more highly prized?—A. Yes; I think that is the only fish of the kind there.

Q. And they come in competition with your fish in the English markets?—A. Oh, the Columbia River fish are superior fish.

Q. And more cans can be made from one fish?—A. Yes; they are larger and I don't think on the Columbia River they are troubled with white salmon, while here most of our spring salmon are white.

Q. Can you give any reason why some should be white and some red?—A. Well some have a theory.

Q. Well, what is the theory?—A. It is they change colour when coming into fresh water—it is supposed that the spring salmon come into the Gulf of Georgia and remain there some time in brackish water and so lose their colour.

Q. But, would the Gulf of Georgia be brackish water—the Fraser River runs in there—the Columbia River runs out into sea, salt water—would not salmon play about the Gulf as at the Columbia River?—A. Well, I think the Gulf of Georgia would be more impregnated with fresh water than the mouth of the Columbia River.

Q. Well, I think the theory would hardly hold good?—A. Well, I would not be disposed to defend the theory myself.

Q. No; it is a peculiarity; and as this Commission is formed in order to get all information possible on the subject, and as canners, &c., have asked for a Commission for that purpose, you will not mind questions of this character. It is remarkable that spring salmon here are not taken on account of their colour, while in the Columbia River they are thought the best?—A. Yes; but fish on the Columbia River are all of good colour.

Q. Then you think that both white and red and the sockeye should be protected after 25th September?—A. Well, we recommend the fishing until November—that permits the catching of cohoes.

Q. If you fish until 1st November it will cover the exact spawning time of any fish you have mentioned—mostly of spring salmon, generally of sockeye, and wholly of cohoes? Either the actual spawning time or times when they are far advanced in pregnancy. Now the spawning time we are talking of would not apply to the river till spawning is done in fluvial portions of the river and lakes. Have you any other remarks to submit?—A. No; not with regard to that. The next subject I would like to speak of would be the hatchery. My views are favourable to it—I think that we have already received benefit from it.

Q. And do you think it would be a benefit to increase the number of hatcheries on branches of the Fraser and elsewhere in the province?—A. I think it would be desirable to establish branches in the head waters of the Fraser River and its tributaries and by so doing we would probably get an early run. The present method is we get the salmon that come into the river in September—well, that is practically the later part of the run, and it seems to me as though the experience of the last two years rather shows that. In '89 the run came in very late, so late that many of the canners were very much alarmed, and the same last year before the sockeye came in. I think if we went to the head waters and established hatcheries there we would be more apt to get the fish that come into the rivers earlier and so introduce the fish that come in earlier.

Q. Would not that apply to spring salmon as well?—A. Very likely it would. We have a run of spring salmon say from March until the sockeye come in, but in April and May they come in pretty plentiful and not so many white salmon among them.

Q. Then if earlier fish were caught and bred, you would probably get earlier fish again?—A. Yes.

Q. And you think more hatcheries should be constructed?—A. I do; now my catch in '91 was in the neighbourhood of 12,000 cases, fully fifty per cent more than before. Of course we consider the fish come into the river in cycles of four years.

Q. Would your name appear on the reports of '90 "Wadham" or the syndicate?—A. No; as "Wadhams" in '90, but I am referring to four years previous to '91. In '87, I think, I packed a few cohoes in that year—that was a scarce year—

Q. Did you pack as many in '91 as '90?—A. Well, not quite—I packed nearly 12,000 cases last year.

Q. In '89 you packed 17,000?—A. Yes, sir; that was a big year.

Q. And away back in '86 you packed 14,000?—A. Yes, sir; the cycles come every four years.

Q. And the same way in small runs?—A. Yes; that is our experience.

Q. In '88 your pack was 5,720 cases and you look forward then to '92 as a small run?—A. Yes; a small run.

Q. If it turns out you get as many as in '90 and '89, what conclusion would you come to?—A. Well, I think it would be conclusive evidence that it would be brought about by the hatchery.

Q. Well, although I may be said to be the father of this industry on this continent, I must say you are almost prepared to go farther than I am?—A. Well, I would not say it would be conclusive, but I think it would show good proof.

Q. What question next?—A. The matter of offal. The prevalent opinion now is that offal as now handled by the canners is not injurious to the salmon.

Q. How about the inhabitants?—A. Well, we think if it was deposited in deep water it would be the very best practical disposition that could be made of it.

Q. You think if put in deep water it would be less injurious than at present?—A. Well, of course a good deal of it is put in now in deep water.

Q. And you think if the Government would consent to your putting it in the channel of the river—the canners would be willing to put it there?—A. If it was just considered the channel of the river, of course, or put in deep water where there is a current—I think that would enable people—that is the canners—to extend shoots right from their canneries.

Q. The channel of the river is pretty well laid out for steam-boat navigation is it not?—A. Well, yes; but I would not meet their view of putting it in the channel—and that would be a long way from the canneries. We think it would be covered if we put it in deep water where there is a current.

Q. But six feet of water would not be either channel or deep water, or a strong current?—A. No; probably not at all points.

By Mr. Armstrong:

Q. Do you mean to put it in six feet of water, as near the canneries as you can get that six feet of water?—A. Well, yes; most of the canneries, or as many as I think of now, shoots could be rigged where they could put it in with that depth of water, or ten feet.

By Mr. Wilmot:

Q. But are not some canneries built where there are twenty feet of water?—A. Yes.

Q. And some six feet of water?—A. Well, I don't know if any have so little as that, most have twelve feet of water.

Q. What is the present system of dumping offal away now?—A. Well, it is by having shoots from the cleaning tables, the offal drops into those shoots and it goes into the water, these shoots are on an incline descending into the channel of the river. I don't say the canners would comply with my views. We might speak of a channel, but when we say the channel for a ship, they would of course select the deepest water, but very few canneries would comply with that.

Q. Then the putting in of offal, as described by you, would be somewhat similar to that you are doing at present?—A. At many places possibly there may be some canneries that could not comply with what I have suggested.

Q. They could not comply with putting it in a channel of six, eight, or ten feet—A. No.

Q. Have you any knowledge with regard to the existence of an oil factory consuming a portion of the offal?—A. I know there is one.

Q. Do you know anything of its operations—successful or otherwise?—A. I would not undertake to express an opinion, because others will be able to speak on that point from the book, as it may be.

Q. But, do you think it possible for canners to convey their offal to some factory that might be constructed for the manufacture of this oil?—A. I do not, except at great loss.

Q. How do you know unless it is tried?—A. Well, it has been tried on the Columbia River where fish are much more rich in oil than here, and I think if there were many oil factories established on the river there would be a great many more complaints than against the canneries at present.

Q. From what cause?—A. They are more offensive—from smell, &c.

Q. Are they more offensive from pollution of the water, &c.?—A. I never visited this factory.

Q. Is it not a fact that all animal and vegetable matters are extracted from the offal and made into marketable goods, oils, &c., and that what is left would be small, light, &c., in body, and not having those component parts that make them unhealthy to water and make it unsuitable for man?—A. I never visited this oil factory, but I have often smelt it at half a mile when going up river.

Q. Then you think it injurious to put offal elsewhere than the canneries do at present, and that if put in the centre of the river it would be equally unprofitable to canners?—A. If we had to take soundings and places in the deepest part of the channel, I don't think it would be.

Q. Oh, but the channel is not in one little line, on the contrary, it would cover many hundred feet, I am not wrong, am I?—A. Yes: the channel would be quite large, but I think that offal anywhere put in six or eight feet of water in a flowing stream would not be offensive from a sanitary view.

Q. But if put in the channel would not the current carry it away to sea?—A. Yes; but if put anywhere where a current, it would do as well.

Q. But would it not be much more slow in going out than if put in the channel?—A. Yes; in the lower river, some places.

Q. And if it took so many hours to go down in mid channel, where the current is strong, it would take just so many more hours in shallow water than in a deeper channel and do more injury and pollution in a long passage, would not that be reasonable?—A. Well, I don't know as it would be delayed more.

Q. It would be a longer time in becoming decomposed?—A. Yes. It would be a longer time in becoming decomposed?—But in all canneries down below, it would not be a matter of hours in taking offal down.

Q. Where is your cannery?—A. At Ladner's Landing, but it might be contended that the proper channel for me to deposit offal would be Woodward Slough, a mile from my cannery. Of course I could put my offal in the steam-boat channel opposite the Landing, but I would not like the department to say that I should put it in the channel at Woodward Slough. (Mr. Wadhams here proceeded to show the situation of his cannery upon a map and explained where in his opinion the current would carry offal from his cannery).

Mr. Wadhams.—Right at my cannery I could put it into ten or twelve feet at low water.

Mr. Wilmot.—How wide is the river at your cannery?—A. About a mile. It would cost very much if I had to handle it out to the deep channel.

Q. Then you think there should be no great change from what you do at present?—A. Well as long as it is put in the current.

Q. And from that are we to draw the inference that some canneries are throwing it in where there is no current?—A. Well, there may be some canneries where there is no more water than that, not swift water.

Q. And the conclusion is that you think offal should be allowed to be thrown in?—A. I think that any cannery that deposits its offal in deep water, where there is a current, it is making as good a disposition of it as practicable.

Q. You are aware that a statutory enactment says offal shall be kept out of the water?—A. Well, of course, but I think it is for the department to think that the Fraser River is a large stream and that it takes very much offal to have any effect.

Q. Are you aware of how it acts on the Columbia River?—A. The Columbia River is a much larger river.

Q. And I suppose you are aware they forbid it there?—A. Oh yes; and that is all, well, I think that goes to show they don't consider salmon offal deleterious. I don't think it has been contended or claimed that offal of salmon is deleterious, although persons here consider it is. I don't think salmon offal is deleterious, now, I have been on the Columbia River myself some years and I never heard it claimed that salmon offal was deleterious to salmon.

Q. I don't think that is contented, but it does effect them to a certain degree, because when salmon come in to go to the breeding places they will go against every possible obstacle?—A. Well, of course I don't want to draw any unnatural inference.

Q. Well, I merely mention it to show that in Oregon and Washington they pass a law that no deleterious substances should go in?—A. Well, I cannot concede the point that salmon offal is deleterious. Now, the question of licenses, formerly canners had 40 licenses each.

Q. Before the regulation? (limitation)?—A. No: under the regulation. Now, they have been reduced from time to time until last year it was 20. We don't consider that is enough for our industry. The canners have asked that they shall have 25 and that that amount be a fixed number, so as not to be reduced on other years.

Q. Well, we will lead up to the question whether 20 boats are not sufficient for you?—A. I think not.

Q. Are you sure 20 boats would not suit your purpose?—A. Well, I know that ordinarily it would not begin to suit me—last year, as I said, I packed in the neighbourhood of 12,000 cases and I had 50 boats—that is cannery boats and outsiders. Of course that is not packing up to near one's capacity.

Q. What number of boats do you consider sufficient to carry on a legitimate trade and pack 15,000 cases?—A. Well, the run varies so in different seasons that it is hard to say.

Q. They have not varied much in last three seasons—have they?—A. Well, the last I don't think was half what it was.

By Mr. Armstrong:

I think you asked him how many boats would be necessary—could you answer that question?—A. Well, we consider that 25 boats, at least, are necessary—I think that ordinarily one season with another that would not begin to fill 15,000 cases. Of course, some individual fishermen make large catches—much larger than any fishermen I have ever had. Of course fishermen in cannery boats—we usually do it with Indians and they don't catch as many fish ordinarily as men who fish their own boats—now, formerly I had 40 boats and I fished them. That was before the limitation was put on and at that time I would employ 160, principally Indians. Of course, I think that it is desirable to look after the Indians somewhat and although they form habits of industry, save their money pretty well, &c.: I think they are just as worthy of encouragement—perhaps, not as much as another—but they are worthy of all encouragement, and I think we canners having control of licenses throw a good deal of work to Indians which otherwise they would not get and when they very often would be a tax upon the province or Government, and if they work they are more apt to maintain good habits than if they are indolent.

By Mr. Wilmot:

Yes: you would encourage Indian labour altogether?—A. Largely at least, yes: but 25 boats would not give canners all the fish they want—many contend it would, but they are mistaken, because last year I had 50 boats and did not get near enough.

Q. How many fish make a case, 8, 10 or 11, or what?—A. Well, it varies from a little less than 10 to as high as 13.

Q. Would 10 cover the average?—A. I don't think it would—I think it nearer 11.

Q. What is the average size of salmon?—A. Well, I never weighed many salmon.

Q. But you have handled them for many years?—A. Well, about six and a half or seven pounds, I should think.

Q. But it is generally considered that eight pounds is the average, is it not?—A. Well, I think it an over-estimate—a man goes fishing, you know, and he tells big tales. We know the number of fish we catch in a season and the number of cans we make.

Q. Well, ordinarily speaking, how many cans will you get from a salmon—four or five? Or what number, usually speaking—give us rough figures?—A. It would not be in excess of four—sometimes it might be more but not much—on these "off" years, as they are termed, when we have fewer fish, they will average a little larger in size.

Q. And then they will average about five cans?—A. Yes: about that, and again in good years the fish will be smaller—fishermen and canners like to see fish coming in small.

Q. Well then, with a good run you can count upon eight pounds to the fish and you get five cans?—A. Well, I don't know whether they weigh eight pounds or not. We would get about five cans to eight pounds—in packing we always give a little more.

Q. How much more to the can?—A. Well, we put in a fraction of an ounce over the pound.

Q. Would it run two ounces?—A. Oh no: perhaps an ounce—even less—it is hard to say—we give good weight.

By Mr. Armstrong:

Q. You don't weigh them do you?—A. Well, I do myself.

Q. Do you?—A. Yes: we test it pretty thoroughly. I may say the canners think in all fairness they should receive 25 licenses and cannot conceive any reason why they should not have them. The canneries, of course they are the principal utilizers of the fish—they are the class, which if it was not for the canneries the outside fishermen would have but little sale for their fish, and outside fishermen, of course, personally, their only way of getting their fish utilized is by sale to them.

Q. Then if you gave an ounce on every can you would be giving away 160,000 pounds of fish?—A. Well, we want to give full weight and a little more.

Q. Well, I think you should advertise that—it would be a good advertisement—would it not? That you give away 160,000 pounds of fish? Well, you think if an eight pound fish it would give you five cans—the balance? this would be offal—would it not?—A. Yes, it would be. I would not want to estimate all this difference, &c.

Q. Yes: but you say yourself the average of fish would be seven or eight pounds?—A. My idea is the average would be from six to eight pounds.

Q. Well then, the average would be seven?—A. As I say, my average is 13 fish to the case and some years a little less than 10—on short years the fish will average larger than on big years—I have not weighed these fish.

Q. No: but if you take the eight pound fish for argument and you make five cans, there would be three pounds left, would there not?—A. Certainly: I would think so.

Q. What would be the average catch of your boats in a season—some fishermen have said they catch four or five thousand, and even as high as 10,000?—A. Well, my fishermen don't do as well as that

Q. As 5,000 you mean, or 4,000?—A. I don't think they averaged 3,000; of course, if I were home, I could give you exact figures.

Q. Oh yes, but I was simply asking; fishermen have come here and stated they catch these big figures—4 to 10 thousand—and average at 3,000 would be small with all these big figures.—A. Well, take even a big year; an average of 200 fish to the shift where you employ day labour is a big average,

Q. Well, suppose there are 30 boats fishing and they catch 3,000 salmon each during the season, that would be 90,000 salmon and that would give you 18,000 cases, would it not?—A. Well, you have the figures; I don't know.

Q. Well, simply multiply 3,000 by 30, and we must take some standard, a 6 pound fish or 8 pound fish, call it 8 pounds, now with 10 fish to a case, that would be—oh, I see I am mistaken, I have made a mistake in your favour—yes; that would be about 9,000 cases not 18,000—yes, 9,000 cases.—A. Well, I don't ever go into such figures. Last year I had 50 boats and packed nearly 12,000 cases; there is no use going into any calculations.

Q. That you think a fair average ?—A. It was my pack ; my neighbours may have beaten that.

Q. And you had 20 boats, and you had to get the balance to make up fish for your cannery ?—Well, I was one of the managers for the syndicate and I used for my special cannery 50 boats last year—that is cannery boats and outsiders.

Mr. ARMSTRONG.—Did you put up all fish that you could catch ?—Yes.

Mr. ARMSTRONG.—Do you think that every person who has a boat and net, being a fisherman, who applies for a license should get it ?—A. Well yes, of course, I think so, because I think it very hard for a man who has his own boat and net if he could not get it ; of course with limitation there comes the difficulty.

Q. Well, but suppose there is no limitation, should canners get less licenses ?—No. I don't think the canners should be reduced—I think if canners have 25 boats they would want 25 outsiders—even in a big year they would want them most of the time because in these big years they don't run so as one could not take care of all the fish he wants : of course there may be one or two days when he would have to limit the boats.

Q. How many fishermen are there on the river ; do you know ? that is white men ?—A. No. I don't know—Mr. McNab could tell you that ; there are a good many.

Q. Do you know if there are many Indians that would fish if they had licenses ?—A. There are some ; I had some Indians fishing for me who had their own nets and licenses. Now, it has been stated that Indians were in the power of the cannerymen—that cannerymen took out licenses for them and then they had to fish for those cannerymen. Now, I think the parties are mistaken in one sense—of course any Indian that gets a license will require assistance, something to be advanced to them in way or of money, &c. If we consider an Indian is honest and will pay back in fish, why we credit him just the same as any other ; but any Indian that has had his own license I have treated as an outsider and given the same prices as I would white men.

Q. With all Indians who have boats and nets and all white men fishing, would there not be sufficient fish caught to supply the canneries ?—A. Well, I don't think canneries would want to be supplied by them at the prices they would want.

Q. Don't you think competition would be so great they would be glad to sell them ?—A. Well, it is a risk I would not care to take. I don't think that the Indians—many of them—would take out licenses ; most of them would rather work by day's labour and know what they were going to get ; they are the people mostly supplied to the canners ; most of our labour are Indians ; of course we employ some white men.

Q. Then you never made any calculation of the number of fish that came into your cannery in a session ?—A. No. I could tell if I had my books—I imagine it took about 12 to a case last year, but then that is only a surmise ; I have made those figures in previous years.

Q. Well, you think you could not do with less than 25 boats ?—A. No. I don't think we could do business properly.

Q. What effect on ordinary fishermen would this have ; would it restrict them ?—A. No. I don't think so, as I say every cannery would want 25 more boats, if we could get them.

Q. There are 22 canneries on this river ?—A. I don't know ; McNab can tell you ; there were several new canneries operated last year, I think, with the limitation on, of course, it is very difficult to satisfy outsiders anyway, because two men equally deserving apply and one cannot get it.

By Mr. Wilmot :

Q. Then do you think every British subject and fisherman should get a licence ?—A. Yes ; only very strong reasons should prevent it.

Q. Then you think that licenses to each and canneries getting 25, would be satisfactory ?—A. Yes, sir.

Q. What would you do with freezers, salters, &c. ?—A. I would give them all the fish they could use ; of course I would not want to say anything that would deprive any one of a license, but during the run freezers get more fish than they can use and they sell them to the canneries ; that is a question for the department, I don't want to say anything about it.

Q. Well, but you should tell us what you think?—A. Well, when canners first got only 20 boats and freezers got 10—that is half the number the canners got—whereas the canners get along with ten fish to the freezers' one, it certainly was not satisfactory to canners while it might be to freezers.

Q. Then you think the number of licenses to freezers and others is a matter for the department, while canners should get 25, and every British subject and fisherman should get one?—A. Yes, sir.

Q. Have you anything to say about persons getting licenses and selling them? Should not men who get licenses use them—the canners do don't they?—A. The canners do. Of course we consider that, as I said before, that when canners were restricted to 20 boats and handed the fish from twice that, it was a hardship that another should receive ten boats and not use the fish from more than two or three, but, of course with limitation off it would not make so much difference.

Q. Then you dispute that new licenses should be given to canners?—A. No, but the canners don't like to have their own number of licenses reduced to bring all within that established number. Our view is if 20 more canneries are erected, you should extend the limit of the licenses.

Q. Then that means that you are willing that there should be as many canneries on the river as capitalists like to put up, but they should be established at a maximum number of boats?—A. Yes, I don't think that we have anything to say as to what the department's course should be towards the new canneries; we only object that our licenses should be taken from us to provide for them.

Q. Would it be wise for the department to discriminate as between the number of licenses given to an old canner and a new one?—A. I don't think so; they should be put on the same footing. Now I am in business and I consider that my interest should be considered, but if I was not in business and wanted to engage in it, I think I would have the right to as many as others, but I would not want to take from his licenses to get mine.

Q. Well, as regards the fee for these canneries, should they be alike on one river as on another?—A. Well, we have the benefit of a hatchery and that would be one reason for us paying greater fees than those on a river that has no hatchery. I don't think the question of fees troubles the canners.

Q. But on the Skeena it is $5 and here $20; if the Skeena fee was raised to $20 would that be unjust?—A. Well, I think you should start a hatchery there before you raise the fee.

Q. Then you think starting a hatchery there would put you on an equality?—A. Well, that would be a reason for raising the fee.

Q. But do you think license fees should be the same all over the province?—A. My views on that matter—and I believe I would be in the minority—is that having advantage of the hatchery and which I believe will be very much to advantage of canners and fishermen—I think it a good reason why we should have to pay more than on the Skeena.

Q. Then you think it sufficient reason for paying $15, more than on the Skeena for every license?—A. I don't think it excessive.

Q. Do you belong to the Syndicate?—A. Yes.

Q. Have you any canneries on the Skeena?—A. Two.

Q. How many here?—A. Nine.

Q. And if the fee is changed on the Skeena two of these canneries would effect you?—A. Yes: but that would not matter.

By Mr. Armstrong:

Q. How many boats do you employ at the canneries on the Skeena?—A. We employ more up there.

By Mr. Wilmot:

Q. How would it stand as individuals then?—A. Oh well, I think they should pay equally as much as canners, for they are equally benefited by the hatchery. I think it would be very unfair to charge a canner more than a fisherman.

Q. Yes: but on the Skeena they pay $5, and on the Fraser $20; as a matter of justice between these different parties do you think a fisherman gets the value of that $15 difference from the hatchery?—A. I do—it will take but few fish at fair prices to soon make up that difference.

Q. Skeena River canneries pack is fully as high as on the Fraser River, I see (perusing B. C. Board of Trade Report). Yes, the average of those on the Fraser River is 13,400 cases, and on the Skeena 13,000 cases, so they are about the same, you see?—A. Yes.

Q. The Skeena River packers—how many licenses do they get?—A. Well, I cannot say that from my own knowledge; but you can get that from Mr. McNab.

Q. And it would take as much labour and exertion to get a sufficient number of fish to put up 12,000 cases there, or more?—A. They would average about the same.

Q. How do they fish there?—A. Altogether with drift nets in deep water, no seining. But I don't know as my evidence should be taken on that for really I don't know—I would not state that is the only method of fishing on the Skeena.

Q. Have you any knowledge of the working of seines?—A. Oh yes.

Q. Which is the most injurious, seine fishing or drift-nets?—A. I don't think it would be wise to introduce seine fishing in the rivers.

Q. How then as to the mouths of rivers—would it mean some young and fish of all kinds would be taken?—A. Very nearly—I think seines would interfere with the work of drift-nets.

Q. And their capacity of catching—would they catch greater number than drift-net?—A. Well, if it was well situated probably it would—ordinarily, of course, seines catch a great many small fish that escape the drift-nets.

Q. Is it judicious to use seines with $3\frac{1}{2}$-inch mesh when drift-nets are in use with $5\frac{3}{4}$?—A. Of course, with seines they want to use mesh small enough so fish will not gill, because if they gill it is difficult to take them from the seine, but it will catch a great many fish that should not be caught.

Q. Do you know the effect of seining?—A. No: I never had much experience—of course I have had catches, large and small.

Q. When a seine is being hauled, is it not a fact that fish run towards shore and not against the net?—A. Well, I don't know that—I would, however, expect that.

Q. And the consequence would be they would not run the chance of being gilled?—A. Yes, I suppose so.

Q. At present seining is forbidden, I merely bring it up to see what you think of it—a seine has the effect of sweeping along the bottom as well as the top and therefore everything must be taken?—A. Yes.

Q. Is there anything else, Mr. Wadhams?—A. No. I thought you would like to discuss the matter One party in giving evidence stated that he had caugh fish in August, referring to sockeye that had spawned. It was just a query: of course I never thought that would be.

Q. I don't think it likely that fish caught in August would be spawned. In fishing your own boats you have relays?—A. Yes; we fish with four men.

Q. And ordinary fishing—two men?—A. Yes.

Q. Would not cannerymen have the advantage over outside men?—A. Well yes: but our experience is that outside fishermen generally get more fish than our men.

Q. Are the men you use in your boats as good as white men?—A. Well, take some Indians they are pretty hard to beat.

Q. Well, take them all through?—A. Of course a good white man is better than the Indians will average, but as I say, take a good Indian and he is a pretty good man.

Q. Oh, I know, but is the average fisherman a better man than the Indian?—A. Well, Indians are more apt to knock off when they consider they have done a good day's work.

By Mr. Armstrong:

Q. How far out do your boats go to fish as a rule?—A. Well, they go out as far as the sand banks sometimes, which is pretty near the lighthouse—not all of them you know.

Q. Don't they go beyond the lighthouse?—A. Possibly, they may—they go as far as the sands extend.

Q. Perhaps you don't know exactly how far the fishermen do go?—A. No, I don't know exactly.

Q. Don't you think it detrimental to fish coming in the river to place large numbers of nets at the mouth of the river?—A. No, I don't—you might obstruct them for a short period, but when they strike the river, you cannot keep them out long.

Q. You don't think they would be headed off and go away?—A. No. I think they would seek these rivers—I don't think they would go away.

By Mr. Wilmot:

Q. Are there not improvements going on outside the mouth—will that affect the channel?—A. It will make it narrower.

Q. Is it by driving piles?—A. Yes, laying mattresses, &c.

Q. How will they affect your fishing?—A. Well, it will make it more difficult to fish there.

Q. Would it be possible to carry on your fishing within the limits of the channel?—A. Well, I would hardly expect to get a fish within that channel.

Q. And you would have to fish outside?—A. Yes.

Q. And then the fish would have a better chance to get up into the main river?—A. Yes; I suppose so.

Q. Is that work in progress now?—A. Yes; I think so. I think boats are at work at present.

Q. Well, I hope, Mr. Wadhams, in a joking sort of way, sir, that you have not lost anything in giving your remarks in the first place, I considered that the precedent would be a bad one, and that others would perhaps say they would not give their evidence, but would go to Victoria.—A. I meant no discourtesy.

Q. Oh no, Mr. Wadhams, we quite appreciate that. Well, is there anything further you would like to state?—A. No; I think not at present

Mr. Armstrong: Thank you, Mr. Wadhams, thank you for your information.

JOHNNY MORGAN (coloured), of New Westminster, a native of British Columbia, and a fisherman.

By Mr. Wilmot:

Q. Well, what is your grievance, or what do you want?—A. Well, I want to speak of ways of fish along the river at Harrison.

Q. Well, what do you want to say about that?—A. After they come up there—about a month after—the Indians catch them and dry them for their own use.

Q. Do you mean on the main river?—A. No; on the Harrison River; that is before they spawn—about two weeks—that is about November.

Q. Do they not spawn earlier than November?—A. Some of them do. After they find out they are going to spawn they don't catch them any more. The flesh gets white after a certain time, and they are poor.

Q. That is before and after, and at the spawning time?—A. Yes, sir.

Q. How long before the real spawning time do you see them getting white?—A. Well, about two or three weeks—about the beginning of November—some before and some after. More get up before. The sockeye get up first, then spring salmon.

Q. Spring salmon go there to spawn too?—A. Yes, sir; then the cohoes go—in fact all the fish, the cohoes, spring salmon and sockeye—they go up Morris Creek to the lake, except the spring salmon. They go up Siwash Creek and right along up to the lake. They don't go into Morris Lake at all.

Q. Have you fished up there?—A. I have both fished and speared The principal way they have of catching salmon for their own use is by spearing.

Q. Have you ever got licenses to fish?—A. Yes, sir.

Q. They give you permission to fish with a net?—Yes; down here.

Q. Then you cannot complain because you don't get a license?—A. Well, I don't know.

Q. You did get a license?—A. Yes; in my own name and paid my own money for it.

Q. Did you catch many fish?—Yes; sometimes some years, and sometimes not as many as other years.

Q. What average, about?—A. I caught 3,000 last year—that was my bad year—the year before about the same.

Q. Then you generally averaged about 3,000 salmon?—A. Yes.

By Mr. Armstrong:

Q. What did you get for them?—A. Last year 20 cents, the year before 10.

Q. Have you been on streams or rivers where spring salmom spawn?—A. They spawn at Harrison right along the river.

Q. Have you seen them spawning between the town of Harrison and along the river up to Harrison Lake—that is the spring salmon?—A. Yes, sir.

Q. And spring salmon don't go into Harrisson Lake—they go into Siwash River and Lake?—A. Yes, sir.

Q. And how far is it from the mouth of the Siwash River to Siwash Lake?—A. About 8 or 10 miles.

Q. And all along that river is it a spawning ground—rapid water?—A. Yes; rapid and with gravelly bottom.

Q. What probable depth?—A. Well, about a foot and in other places a foot and a half.

Q. And the fish that enter Morris Creek are principally all sockeyes?—A. Yes; sockeyes, steel-heads, cohoes, and dog salmon.

Q. Well, sir, your information is useful in this way that some of the canners want spring salmon bred here and the information you are giving would lead to the belief that spring salmon go up Siwash Creek and could be caught there—what time was that?—A. Yes, in November.

Q. Have you caught many of them there?—A. Quite a few.

Q. Red or white?—A. They are mixed red and white, but after a time there they all get white.

Q. Is that the case with Sockeye too?—A. Yes, sir.

By Mr. Wilmot:

Q. Well, sir, I might state that the officers here have been seeking a place to get spring salmon to breed from, and this information you have given leads to what they require?—A. Yes, sir; there is another Creek—Silver Creek—I think it is—it empties into Harrisson Lake—that they go up.

Q. Do you know anything of Stave River?—A. No, sir.

Q. What do you think of throwing offal into the river—good or bad for fish or people?—A. It might be bad for people, but I don't know if it is for fish.

Q. Are many people fishing on the Siwash River?—A. Nothing but Indians.

Q. And they catch them by spearing, you say?—A. Yes, sir.

Q. But not when spawning?—A. Not just at spawning time, because the meat is not very good and for a while it is very poor. When the sockeye comes in numbers they die—many die before they spawn and many after.

Q. Do spring salmon die too?—A. Yes.

Q. As numerously as sockeye?—A. Yes, sir. I think very few fish get back again.

By Mr. Armstrong:

Q. Do you reside up Harrison River?—A. Yes, sir.

Q. Have you seen fish die when they got a short distance this side of the bridge?—A. Yes, sir; I have seen many of them.

By Mr. Wilmot :

Q. Can you give us any reason why they die?—A. No, sir.

Q. Where are the Hot Water Springs?—A. About three miles above.

Q. And the outlet of the spring is right at Harrison Lake. Does it change the colour of the water in Harrison Lake?—A. No, sir.

Q. The fish dying are in Harrison River?—A. Yes, sir.

Q. Do you see them die in Siwash River?—A. No, sir; I have not seen them.

Q. The inference is the hot water has an effect—do you know anything of Nicomen Slough?—A. It is a part of the Fraser—it comes down just a little below Harrison.

Q. Do you know anything of the Pitt or Coquitlam Rivers.—A. No, sir.

Q. Is there anything further you would like to say?—A. No, sir.

Mr. Wilmot.—I am very glad you have given us the information you have; we have not had any one before giving us information as to these rivers, and it may be useful hereafter.

Mr. Armstrong.—Thank you for your information.

The Commissioners adjourned at 4 p.m., to meet again at 10 a.m., on 26th February.

New Westminster, B.C., 26th February, 1892.

Seventh Day's Session.

The Commissioners re-assembled at the Court-house, and was called to order at 10.20 a.m.

Present.—S. Wilmot, Esq., presiding; Sheriff W. J. Armstrong; Mr. C. F. Winter, secretary.

WILLIAM ARTHUR, of Delta, or Ladner's Landing, a native of England, a farmer, and resident of British Columbia for thirty-three years, was duly sworn.

By Mr. Wilmot :

Q. If you have any statement to make appertaining to the fisheries of the Fraser River, we will be pleased to hear it?—A. I wish to speak on the offal business. I don't know anything of the regulations about cannerymen or fishermen proper, but I wish to speak particularly on the offal business.

Q. Are you aware that offal is forbidden by law to be thrown in the river?—A. I have heard so, but I know it is always thrown into the river. My farm is just two miles from the Delta cannery, on a slough running in from Point Roberts. This slough is not navigable, except for very small boats, at high tides the water is bank high, but when it goes out it leaves the soil perfectly dry. It is ten feet wide at my place down to sixty feet at the cannery. The Delta cannery and Mr. Wadhams' cannery are not on the main Fraser, but they are on a slough; a sand bar runs down the river about two miles; steam-boats going to Ladner's Landing have to back down a mile to get back.

Q. What is the name of the slough?—A. Cohiluthan Slough.

Q. How far is it from—which cannery?—A. The Delta; it is right on the corner of the slough.

Q. How many more canneries are there between that slough and Canoe Pass?—A. Mr. Wadhams' cannery—before a steamer can get back into deep water she has to back about half a mile—now the offal is all thrown from the bottom of the cannery and the tide comes up this slough and takes it clean up to where I live. The offal is all thrown from a hole in the floor to the water.

Q. About how deep is the water?—A. Well, it is often dry; I have seen the offal from a foot to eighteen inches deep until the tide comes. When the tide runs up it goes with a pretty big current and takes everything up to where I live, but when it

recedes it leaves everything in the grass. It moves everything right up to the head of the slough, and then it stays there, not only portions of offal, but lots in front of my door. I invited some canners to go and see it, but they would not go. Since these canneries have been there we have had much typhoid fever; right along this slough we have had seventeen cases of fever this last summer; four cases in my own house alone; three I had to send to the hospital, and it cost me $600 to get them out. And Mr. Calhoun—his farm is opposite mine—he had two of his sons and three of his hired men down with typhoid fever, and so Mr. Calhoun had five cases in his house. A quarter of a mile below my nephew lives, and he had three cases, and there were two others further down nearer the river, and they had two cases also that I know of. I think if the offal were taken out in the deep water where the current would take it off, it would be less liable to cause sickness, but I am fully convinced that this typhoid fever has been the result of offal being thrown in, because there has been no sickness either side of us all summer.

Q. What do you mean by "either side?"—A. A mile on each side of us. There is no current to take offal from either of those canneries—the tide comes right up. I refer to the "Delta" and Mr. Wadham's canneries.

Q. Do these two canneries carry on a large business?—A. Yes, sir.

Q. To what extent—have you any idea?—A. I don't know; I have heard that the "Delta" put up two years ago 20,000 cases.

Q. You have reference to 1890?—A. Yes; I have heard in 1890, 20,000—something like that.

Q. Have you any cause, or knowledge of your own, or could you give us any information as to the number of cases put up that year?—A. No, sir; I could not—I only speak from hearsay.

Q. The hearsay is 20,000?—A. Yes; I think those two canneries are situated worse than any others on the river, because there is no prominent point where the current strikes to take it off. I think the offal should be taken from those canneries especially.

Q. What about Canoe Pass?—A. Well, there is quite a bit of sickness along Canoe Pass as well.

Q. What canneries are there?—A. Well, I don't know, I think there are three. the Phœnix is one—I don't know all the names.

Q. Are there cases of typhoid fever on Canoe Pass?—A. There has been; it is a larger body of water than our slough. Canoe Pass is a very large stream.

Q. How wide might it be?—A. A quarter of a mile, I think.

Q. The effects of offal there would not be felt as much as in your Slough?—A. Not as much; there are little pockets in the sides of the Pass, little wash-outs, &c., and offal works in these, and people who were piling hay had to go and remove it.

Q. And they removed it? For what reason?—A. The stench was so bad they could not work.

Q. Is there an oil factory near there?—A. No; the oil factory is on an island in the river further up.

Q. Do you know the name of the island on which it is?—A. I don't know.

Q. Crusoe Island?

Mr. Ladner (interrupting): Yes; you may call it that.

Mr. Wilmot (to witness): You have resided for some time down there?—A. I have owned land for 15 years and have had my family residing there for the last seven years.

Q. Have you been selling land there?—A. No; I have not sold any, but I will have to sell very soon if there is continued sickness.

Q. Has it affected your land?—A. Yes; I think it has depreciated the value of land, in my estimation $20 an acre, on account of the fever sickness being along that slough. I might say there was going to be a public meeting to-morrow at two o'clock for people to give evidence to send before this Commission.

Q. What municipality?—A. Delta.

Q. On the offal question alone?—A. Yes; on the offal question alone.

Q. Are there many inhabitants in that municipality?—A. Yes; they are quite numerous there now—I suppose there are a couple of hundred people in about a radius of three miles there.

Q. All farmers?—A. Principally.

Q. What is the product of farming operations there, cereals &c. ?—A. Yes; cereals, hay, fruit and general farming.

Q. Well, the island formed between the slough and Canoe Pass?—A. Well, it is an unknown island; it is a sand bar formed for about two miles long—at high tide vessels might go over it. The offal is carried into that slough and there is no current to take it out.

Q. Are you of opinion that means could be adopted for consumig this offal by making it into oil or adopting it for agricultural purposes—fertilizer?—A. Well, I have used some of the material from this factory as a fertilizer and I think it very good.

Q. What sort of constituents has it—the refuse?—A. Something like a brown snuff, quite fine, like powder—I used about 500 pounds of it last summer.

Q. And quite dry?—A. Yes, quite dry.

Q. If thrown into water does it float away or does it sink?—A. Well, I never threw it in, I throw it on the land—I think if thrown in might float away—there is no smell attached to it much.

Q. Have you been at the oil factory?—A. Yes, I have been through it.

Q. Is there much offensive smell coming from that factory?—A. At the time of working there is.

Q. Have they done much work there—have they manufactured much?—A. No; not a great deal—I have heard it did not pay for itself, but the offal could be taken from these canneries in scows with false bottoms like sand from dredging.

Q. Have you heard the reason why it did not pay?—A. No; I think it has been carried on, on an experimental scale—the Delta Cannery has taken some offal to this factory last summer, but I don't know if canners had any shares in it, &c.

Q. Do you think it would be any difficulty for canners to take offal to these factories if established?—A. No; it is a mere matter of towing the scows there.

Q. Could offal be easily caught from the canneries?—A. Yes, I think so—it would be merely a matter of dropping it down from a shoot into a hopper.

Q. What effect upon fish has it?—A. Well, I don't know what effect it would have upon fish.

Q. Do fish ever come up the slough you speak of?—A. I don't think any salmon run up there—nothing but small fish—dog-fish, suckers, &c.

Q. Have you any knowledge of what transpired there 20 or 30 years ago; during the time you have been there did any salmon come up?—A. Fifteen years ago there was no bar there and steamers could come in then. Formerly, I believe, the slough did run straight through, but I don't think any fish went through.

Q. Well, then this map is misleading, because it shows the water running straight through into Georgia Straits. (Referring to map by albert J. Hill, in pamphlet form, printed at the office of "The Columbian," New Westminster, 1889).—A. Oh no; no water runs through—there is no opening and the offal backs up and comes through—I have never been in the fish business and so cannot say much about them.

Q. Of the inhabitants that form this municipality—were there many ordinary fishermen or are they fishermen at present?—A. No; most are farmers—there might be 15 or 20 fishermen.

Q. Is the soil good and productive?—A. Yes, very good. And the tendency would be that farmers would settle there, but if there is as much sickness again as last summer, it would deter people from going there, and I think it can be traced right to the offal.

Q. Are you aware of this sort of difficulty prevalent anywhere else, except just at Delta?—A. On Canoe Pass, as I have told you.

Q. Anywhere else?—A. No; not that I know of.

Q. Are you sufficiently acquainted with operations in a cannery to know what proportion of fish become offal and are thrown in the river?—A. No, I am not—I would suppose one-fifth or one-sixth goes into the river and very often there might be a scow load that goes—any unfit for canning are thrown into the river.

Mr. Ladner (interrupting).—Mr. Chairman, I will ask you to ask Mr. Arthur if he knows that, and can state it in evidence?

Mr. Armstrong.—Order, order.

Mr. Arthur.—Well, I have known of fish to be thrown over from a scow.

By Mr. Wilmot:

Q. And have you seen this on more than one occasion?—A. Well, what I have seen myself and heard; when there is a heavy pack it is done every season.

Q. Does it occur every season?—A. No, I don't think it occurred this season; I know that last season it was, because I went to get some myself and the whole scow load was bad.

Q. What number might be in a scow?—A. From one to two thousand fish in a scow; I should think that fully.

Q. And you say that when these are bad and unfit for canning they are thrown into the river?—A. Yes; they are. I am not a canner myself, but state from hearsay, and what I have seen.

Q. And can you say you believe that if a large factory were started there this offal can be used in shape of a fertilizer and oil?—A. Yes; I cannot say if it would pay, but I know the fertilizer is good, and I have used the oil and it is good. I should think about 2,000 gallons were used at the Landing last summer; Mr. McNeely told me about 2,000 gallons were sold.

Mr. Ladner (interrupting).—I would ask Mr. Wilmot to ask Mr. Arthur if he knows that for a fact himself?

Mr. Wilmot.—No interruptions please; when you were here you were heard attentively, Mr. Ladner.

By Mr. Wilmot (continuing):

Q. So you think about 2,000 gallons of oil were purchased at Delta; what value per gallon?—A. I think it is 50 cents.

Q. What use do they put the oil to?—A. Well, farmers use it for every shape in which they use oil.

Q. Is it good for lubricating machinery?—A. Yes; and for oiling harness, and in fact everything owned on the farm.

Q. It takes the place of the kind of oil they formerly used?—A. Well, I have never heard of anything else but fish oil used there.

Q. Well, but it takes the place of what was formerly used and bought elsewhere?—A. Of course.

Q. You have been in the habit of buying oil other than this for lubricating, &c.?—A. Yes.

Q. And at what price?—A. Just the same price as offal oil from the factory.

Q. It stands then on the same footing, as it were?—A. Yes.

Q. Where is the nearest agricultural or farming operations carried on to you from Delta; is it all around that section of the country?—A. More or less all over; it is all taken up: not an acre but what is owned; of course it is not thickly populated as yet, but quite so around the river front.

Q. Is this oil much used?—A. Well, I don't think they use anything else, for a farmer goes and buys dog-fish oil.

Q. Is this oil used anywhere else; do you find lumbermen using it on skids, &c.?—A. Well, I don't know.

Q. You know oil is used for that purpose?—A. Yes; I know.

Q. And do you think this offal oil would be useful for this purpose?—A. Yes: I think so.

Q. You must know, Mr. Arthur, the object of asking these questions is that in the event of the offal being made into oil, we want to know if it is possible for it to be used for these purposes?—A. Well, I think it preferable to dog-fish oil, because it is not so offensive to the smell.

Q. You don't know anything about the fishing business, and don't care to make any remarks; you have no suggestions to make? What is your idea as to the close season—at present it takes in from Saturday morning at six o'clock until Sunday afternoon at six o'clock?—A. Oh, well, I think that is very good. I am not interested, but I think it would give time for fish to run up from Saturday morning to six o'clock Sunday evening

Q. Now, from a moral standpoint, is it preferable to have any operations on Sunday used for fishing purposes?—A. I think not.

Q. Then you think it justifiable, not only to fish, but to inhabitants coming here, that the whole of Sunday should be kept?—A. I do.

Q. Now, a great many settlers complain that they cannot get licenses; do you think every man, a British subject, should get a license to fish if he wants it?—A. I do; I think that every man who is a fisherman should get it, but it should not be transferable, and I think one license enough for one man.

Q. From the point of causing immigration to the country, do you think it would advance the population here if every man got a license?—A. I think it would; I think if cannerymen get all the licenses they want, very few other persons would get the chance of fishing.

Q. You don't say canners should not get any licenses?—A. Oh, no; I don't say that, but if canners get a great number of licenses, why fishermen cannot sell their fish.

Q. Have you known of people leaving the country because they could not get licenses to fish?—A. They have told me so, that they were going away because they could not get a chance of a license or sell fish.

Q. Are you now satisfied in your own mind that offal could be converted into oil and fertilizers by the application of the necessary means from the canneries?—A. I do, and I don't think, even if it could not be used in the factory, I don't think it would be of but very little expense to take it out into salt water, because there is never a day but the canneries from Delta, take a steamer to the mouth of the river, they take the scows down.

Q. And you think it would be conducive to the benefit of the cannery, if they did this?—A. Yes; to the health of the cannery.

By Mr. Armstrong.

Q. Are there any cesspools and other stagnant recesses near your house to make a smell there, other than what comes from the slough?—A. No, sir; there is nothing to account for the sickness other than the offal; beyond a mile from the slough there was no sickness; around the slough there were 16 cases and three or four deaths.

By Mr. Wilmot.

Q. Where do you get your water, along the slough?—A. We have to catch rain water, my cattle have to drink the water from the slough.

Q. Well, if the cattle drink this, was there anything bad in the milk?—A. Well, a canneryman told me that—that the sickness came from the milk, but whether this is from the cattle drinking the water or not, we could not get water anywhere else, except away back in the woods—the cattle cannot get anything else.

By Mr. Armstrong:

Q. Are there not a number of persons down there who use water out of the slough?—A. Yes; they have to—they take it from the slough and filter it if the tanks run out. When we first went there to live we drank water from the slough.

By Mr. Wilmot:

Q. About 16 years ago?—A. Yes.

Q. Were there any canneries there then?—A. No, there were no canneries when I located there first.

Q. And you drank the water from this slough?—A. Yes, but we don't do it now—we are afraid to do it.

Mr. Wilnot.—Thank you—that will do Mr. Arthur.

E. A. JENNS, of New Westminster, a barrister, and resident of British Columbia for 11 years, was duly sworn.

By Mr. Wilmot:

Q. Well, if you have any statement, Mr. Jenns, we are prepared to receive it?—A. I would prefer if you would ask me the questions in order.

Q. Well, in regard to the offal question?—A. Well, some seven or eight years ago when younger, I used to go fishing and shooting on the river, and I have seen the shoots at the canneries leading into the water continuously day after day, and I have seen the small fish around them in great numbers. No part of the intestines ever reach more than the water before being consumed by the thousands of small fish, and the larger parts, the heads and tails, are eaten up by sturgeon and the larger fish. I don't believe that the injury from offal is one half as much as from dead fish floating down stream.

By Mr. Wilmot:

Q. What effect has offal on fish and fish life?—A. It simply serves to feed the lower class of fish.

Q. Any effect upon the entrance of the commercial class of fish passing up?—A. I should think not; I could not say whether or not, but I believe not.

Q. What effect has it, do you think, from a sanitary standpoint?—A. Well, the only place I have ever heard of it is from around the Delta, where lots are found, but even there, I don't think the smell would be as bad as above here,

Q. Then you think it has an effect?—A. It might have down there, but not here.

Q. What is the effect of water and air being pure, is it not better from sanitary effects than if not?—A. Well, yes, I certainly grant you that, but you have not proved yet that the water or air is made impure by offal.

Q. Then you think it has no effect upon water or air by throwing in large quantities of offal?—A. I think it has very little effect, because I think it is consumed at once.

Q. You think it is consumed as it falls from the canneries?—A. I have seen the water apparently to the eye rise three inches as the small fish rushed up.

Q. Or would it be from rising on top of the offal underneath it? (laughter)—A. No: it would be from the fish rising up to get the offal.

Q. Have you seen fish in shoal water with their backs out of the water?—A. Well, I have seen fish in the upper waters of the Fraser River in places where the water was shallow, fighting their way up—they laid back to back—the smaller fish don't come up that way—they go with a rush.

Q. Then you think offal is not injurious to man or beast?—A. No; not if deposited in deep running water—on shore it may,

Q. Then if it lodges along the sloughs?—A. Well, I don't think it would be as bad as from death of fish. I know of one farmer in Chilliwhack who took away 50 loads of dead fish.

Q. But Chilliwhak is not down here?—A. Well, but it is just the same as here—Chilliwhack is only 40 miles away—I have seen dead fish in great numbers 500 miles from here.

Q. But if you or your family were living along these sloughs would it not be offensive?—A. Well, not at the canneries—I am speaking of when there were canneries in the town here—Mr. Ewen had one, and I think there was another in town then, too.

Q. Then you would not mind living alongside a cannery?—A. No; I would not, except for the Chinamen.

Q. Then Chinamen are worse than the offal are they?—A. Yes. I think so, a good deal. (Laughter.)

Q. And you say the offal goes down from a shoot into the water and the little fish raise themselves out of the water to get it?—A. Yes. I have seen it time and time again.

Q. Do you know what fish these are?—A. They call them suckers.

Q. Do you know that suckers are a voracious fish?—A. They are a greedy fish I know.

Q. Do you think they eat the heads and tails?—A. No, I don't ; but they eat the intestines—the heads and tails are eaten by the sturgeon.

Q. But these large quantities that are sent along the sloughs—is that what has escaped being eaten by the large fish?—A. If it is so, I suppose so.

Q. You spoke of large numbers of salmon coming down from the upper waters dead—have you ever seen them here?—A. No, but I have seen them in thousands between Boston Bar and Yale—I have seen a few here, but they don't appear on the surface as above.

Q. The place you speak of is several miles from here?—A. The place I speak of is over a hundred miles from here—I have seen a few floating here and have seen them along the shore here and there deposited.

Q. From what source were they deposited?—A. Well, I have simply imagined that they were washed up by the tide.

Q. Would you think they were from the canneries?—A. No, I don't think so—I didn't think there were any canneries above here.

Q. Were canneries not above here—what about the "Bon Accord" and Mr. Laidlaw's cannery?—A. Oh well, if you tell me there are canneries above here, of course, I suppose there is.

Q. Is it not possible that this offal which creates in the estimation of the public here so much offensiveness—could it not be made into oil or something?—A. Well, I don't know anything about that—it is a speculation—I would not care to go into it myself, it might not pay, though I don't know.

Q. You say offal from fish is not injurious to fish or to inhabitants?—A. That is my opinion.

Q. How about saw-dust?—A. I know nothing about that.

Q. About the limitation of licenses?—A. No. I don't know—I know the canneries must have fish to work with on Monday—the present close season seems to me to have been found the best of any.

Q. You are a legal man you say—if a man has business you think you should work on Sunday for him?—A. Yes. I would work on Sunday or any other day.

Q. And you have no fear of that which appertains to the christian world?—A. Well, I would not like to say that either.

Q. Do you know of anything about artificial fish-breeding?—A. I believe it is beneficial.

Q. Do you know anything of the distribution of licenses?—A. Well, that again I can only speak of from a business point of view—what number I cannot say, but I think every British subject should have a license. But from my experience I can speak of only some canneries—the canneries make arrangements in the spring to put up so many cases—fifteen, twenty, or thirty thousand cases as it may be—then they make a contract with intelligent fishermen to supply them with fish—if they get few fish their own boats are fully employed—if they get too many fish then their boats are first withdrawn—that is working with an established number of licenses—for if they execute a contract with outside fishermen, of course if they did not adhere to it, would be a matter of so much damages.

Q. And with an established number of 25 or 40 licenses they make these calculations—if they got one-half the number of licenses they would make one-half the arrangements?—A. Well, no, it would depend upon their capital and other things.

Q. And you think there should be an established number and every fishermen should get a license?—A. Certainly.

Q. And do you think there should be bartering and selling of licenses?—A. I simply think that the man who takes a license or licenses should use them for himself—it is not a matter of speculation.

Q. What are your views in regard to the license fee being the same for all canners in the province?—A. That I am not prepared to say.

Q. Well, sir, I think that is all the list of questions—if you have anything further?—A. I have one or two things I would like to suggest—I heard one witness speaking about the different runs of fish in the river. I cannot speak from personal knowledge, but the man who knew most about fish in the river was Mr. Charles Hughes—he is dead now, unfortunately—I give this simply as information. He was a man who knew about what he was talking and he told me when the Whites first came out here the stories they got from Indians were to the effect that there were five runs of fish in the river, and they didn't believe them. Then a man was sent out from England and stayed here a year—a Naturalist—and after studying the thing out they found there were really five different classes of fish in the river—then a man named Lord wrote a book about the salmon in British Columbia and telling of the different kinds. Another thing is, I don't think from what I personally observed, or from what I have heard, that any sockeye ever return to the sea after they enter the river.

Q. Have you any knowledge of that fact?—Yes; I have been travelling up and down the river since 1878.

Q. How do you think that the species would be kept up if all die?—A. Well, that I cannot say—there is one proof outside of what I have heard and that is this—salmon can be caught going up river, but I never heard of fish being caught going down.

Q. But fish are no use then?—A. But the experiments have been made—just like the experiments to catch them with a fly.

Q. Do you know the cause of that sir, why they cannot be caught? They never take the fly in the breeding season in any country in the world—they only take the fly when they first come in and in clear water?—A. Well, I know salmon will take either the spoon or fly in the salt water at the mouth of the river, and that salmon will take the fly and spoon in England.

Q. They do in some of the lakes and streams?—A. Then the effect trout have upon the salmon—they are not merchantable here but they are in Victoria. I have seen the salmon spawning and the trout following up and eating the roe almost as soon as it is deposited.

Q. Yes; that is a provision of nature—all fish live upon one another—either directly or indirectly. Large fish consume the smaller ones, but evidently they leave enough eggs to furnish these canners with enough fish to carry on their operations.—A. There is just one other remark—I don't know if it is of much interest—five years ago I was up to Coquitlam Lake, and I have seen salmon in great numbers there dead upon the water—some sockeye were, and I have seen them there dead after spawning. One of the Indians who was with me took one of the dead salmon out of the water and stripped it to get some of the spawn to fish with for trout.

Q. Then the consumption of water from this lake, would it not be hurt by the numbers of dead salmon? I understand that you are to draw water from this lake for the city—if large numbers of dead fish are there would it not be hurtful to the water?—A. Yes; certainly it would.

Q. Then would not this large amount of offal thrown into the river be hurtful?—A. Well, I don't think so—it is all eaten up at once. I have drank water myself from the river in winter and have been made almost sick from it. From what I have seen of Coquitlam Lake, I don't think the water would be very much hurt.

Q. You would only draw good water then for the city. You would not draw the bad water? (Laughter.)—A. Well, I don't know—I don't think it would be hurtful.

F. L. LORD, a native of the United States, resident in New Westminster—15 years in British Columbia—and a salmon packer, was duly sworn.

By Mr. Wilmot:

You prefer giving your own statement to answering questions?—A. Yes; I would prefer it for awhile anyway. It is my opinion that offal does no particular harm to fish

or fish life—I cannot see where it does any. I would not undertake to say it does not actually do any, but I don't know that it does any particular harm—there might be, but I don't know anything about it.

Q. What further do you know then?—A. Well, from my experience in the salmon business we have been practising dumping it down through shoots into the water—that has been the practice.

Q. Have you been aware all this time that it was an illegal practice?—A. Well, there has been no law enforced to the contrary.

Q. The law is in force—it is only that your permission given to not observe it is revoked.—A. I suppose so.

Q. And the law was not revoked either this year or last year, therefore it must have been in force?—A. I am not an owner—my employers would be liable.

Q. What cannery would you be with?—A. I have been with Mr. Wadham's for a number of years past.

Q. What quantities of fish are brought in annually?—A. Oh, well, if a man packs 15,000 cases we calculate from eleven to twelve fish to a case, and that 15,000 cases would apply to some years while, 8,000 cases would better apply to some other years.

Q. What would be the weight of salmon of that kind?—A. Well, I could not say what proportion we throw away.

Q. That is not the question I asked.—A. Well, about four or five pounds after they are cleaned.

Q. But I asked you what are the average weights of salmon brought in by the fishermen?—A. I don't know.

Q. What time were you engaged in salmon business?—A. About sixteen years.

Q. And you don't know the average weight of the fish you handle?—A. Well, I don't know—I never weighed them; if you want me to guess, why of course——

Q. Oh, well, you guessed at these other matters, did you?—A. No, I know that; oh, well, I would say the fish would be in the neighbourhood of 8 pounds.

Q. Do you get any fish weighing 8, 9 or 10 pounds?—A. Well, probably 10 pounds would be too much.

Q. And what the average?—A. I would say from 6 to 7 pounds.

Q. And you guessed at that, too?—A. I am guessing it, of course, because I never weighed them.

Q. And if other canners make oath that it is 7 or 8 pounds would they be correct?—A. Well, I don't know; I don't like to be fastened down to a point; I should say the general average would be about 7 pounds.

Q. Canners and others say about 7 and 8 pounds?—A. Well, I suppose I should say 7 or 8 pounds.

Q. And now there will be no guess work as to the number of fish that come in?—A. Oh, no, I know that.

Q. What number of fish would be brought in daily?—A. Well, it depends on the season; sometimes they will bring in two or three hundred, and perhaps next day you will only get 20 or 30.

Q. Is there any time in the season when large numbers are taken?—A. Oh, yes; it is very hard to say; some men will go out and catch between seven and eight thousand fish.

Q. Some will catch 10,000, don't they?—A. Well, I have heard so, but I don't know whether they do or not.

Q. Well, many of them catch 5,000?—A. Yes; I should think many of them would catch 5,000.

Q. And these fish are brought into the cannery?—A. Yes; they are all brought to the camps first. They are then brought to the wharf and then cleaned and put on tables for cutting.

Q. What is the first process in cleaning?—A. Taking off the head, then taking off the fins, and then splitting the belly and cleaning out the entrails. Then the tail is cut off and thrown out into the water.

Q. What is the next process then?—A. After the salmon is washed thoroughly it is cut into the right lengths by a machine with revolving knives, to suit the cans.

Q. Well, then, they are cut in so many pieces, and these are the pieces that make the cans, and each can takes one, and one fish will make how many cans of that size?—A. About four cans.

Q. An eight-pound salmon will make four cans?—A. Oh, I won't say the eight-pound salmon.

Q. Well, we started with an eight-pound salmon; we will say four cans?—A. Then they are thrown in the brine tank, and then thrown out and drained, and then they go on the filling tables, and then they are put in cans.

Q. A pound in each?—A. Yes; they do get a pound in each. The next process is, all dirt is thoroughly washed off the can, &c., and then they pass on to the soldering machine and then they are cooked. After steaming they are washed in the lye kettle, thoroughly washed off in a clean kettle and piled away.

Q. And they are then ready to be packed for market after being labelled?—A. Well, they are piled up in a pile—before this they are tested, and leaks fixed up, &c.

By Mr. Armstrong:

Q. After they are steamed, do you not put holes in every can?—A. Yes; they are punched with a hole, and after the steam comes out they are then closed up.

Q. And does any liquor come off?—A. Yes; a little liquor goes, too.

By Mr. Wilmot:

Q. How many hands are employed in a cannery?—A. Well, in the neighbourhood of 100, all told—that is, in a cannery with a capacity of 15,000 cases, because there are only a few days when all can be working fully.

Q. Of those 100 hands, how many are foremen generally?—A. I have been a foreman—there would be a foreman of the Chinamen—he would be a Chinaman.

Q. Yes; but how many white men in specified positions?—A. Well, then there is the foreman of the cooking; then there are firemen, and several other assistants.

Q. The firemen would be white men, and all the rest Chinamen?—A. No; there would be a white inspecting the filling, and white men would be in charge of the retorts, timing and keeping the proper temperature; then watchmen, &c., about eight white men.

Q. Would that be a fair average in other canneries?—A. Yes; there might be days when they would bring in one or two others.

Q. And the rest?—A. Klootchmen and Chinamen—the greater number Chinamen. The Indian women wash the fish, and pile the cans away, and such work as they can do.

Q. Are Chinamen paid by day work, or on contract?—A. Well, some canneries are different. Some Chinamen contract to do the work at so much a case. Mr. Wadhams engaged his men by days' pay.

Q. Do you know how much the boss Chinamen gets per case?—A. About 50 to 70 cents a case. I don't know what it costs other cannerymen.

Q. A trifle over a cent a can?—A. Yes.

Q. And the Indian women, they are paid by the day?—A. In the case of a contract they would be paid out of that 70 cents, or whatever it might be.

Q. Oh, then the whole of the work is done by the Chinaman boss?—A. Yes; the whole thing; and of course these Chinamen pay the Klootchmen.

Q. And the only other white men would be the six or seven you mention?—A. Yes; that applies to some canneries.

Q. Well, it is the general thing, is it not?—A. Well, I think a number of canneries have been doing it by the day.

Q. Then the white labour employed in a cannery, turning out 15,000 cases, are some six or eight white men?—A. Yes; but I may say it would not pay any white to do the work the Chinamen do for the pay, or anything like what the canneries would be willing to pay.

Q. And if any class would do it for 35 cents, you would take legitimate work away from others for them?—A. Yes; we would all do that—we would get it as cheap as possible.

Q. Have you any knowledge of the Columbia River?—A. Yes; I have been through there, and I have never seen a white man employed there in this work—a white man would starve to death.

Q. Then the canneries that are run by this work—the proportion of expenditure would be about the same—contract and days' work?—A. About the same, I think.

Q. What do you pay the Indian women?—A. 10 cents an hour. In Wadham's cannery they are paid 12½ cents—some less. Chinamen are paid $30, $32 and $45 a month. Some few Chinamen are paid as high as $45 a month, but very few, I think.

Q. Then on the whole, contract prices and day prices is about the same thing?—A. About the same thing. Speaking of my own experience, I had to run around and get all the white men I could.

Q. Do you try to get Chinamen first?—A. No, I don't; but we could not afford to take white men.

Q. Then a white man is better than a Chinaman?—A. Oh, yes. Of course I would prefer a good white man to a good Chinaman any time.

Q. Can you give us any description further as to the mode in which these people are paid—are they paid in money or in trade?—A. In money.

Q. Are there attached to the canneries, shops or business places, where cannerymen keep goods for sale to Chinamen and workmen?—A. Yes; most of them have their own shops in connection with the establishments.

Q. And in which the workmen trade considerably for their wants, &c.?—A. Yes; but I don't think they would get much except food and provisions. They have a few little things, dry goods, &c., but they don't amount to much.

Q. But there would be a considerable amount of goods consumed in the course of a year?—A. Yes; in places where they were away from stores.

Q. And do they import these things—do they get them from San Francisco or elsewhere?—A. No; I think they get them from Victoria, and in the towns here.

Q. Do the workmen—Chinamen, Klootchies, &c.—get all the fish they want gratis for their own food?—A. Yes; usually they do.

By Mr. Armstrong:

Q. Do they get all the white salmon and other fish not canned?—A. Yes; I think there is enough white salmon caught during the sockeye run to supply the Indians with food. I might, however, be going too far in this, but——

Q. And are all given to the Indians?—A. Yes; as far as I know.

Q. Are they in good condition?—A. Yes; invariably in good condition.

Q. You know of no instance where salmon became unfit for canning purposes?—A. Well, there are cases of sun-burnt salmon, which would be unfit for canning, and they are thrown overboard.

Q. Are there any instances in your memory where a whole boat-load would be unfit—keeping over night too long, &c.?—A. No; I don't know of any such case—all boats deliver fish at the scows and none at the cannery. I don't mean that scows come in with sun-burnt fish on that scow. I mean that fishermen will catch fish and throw them in the boat, and when they are not properly covered over, they will get sun-burnt and damaged.

Q. Are these fish easily discerned?—A. Yes; the Klootchmen get them and they watch closely, because they get all these fish for themselves.

Q. But some are thrown overboard?—A. Sometimes.

Q. And these occurrences must occur more or less in a large business?—A. Yes.

By Mr. Wilmot:

Q. And these things cannot be avoided?—A. Oh, well, yes; if you watch every fisherman.

Q. And these white spring salmon that come in—are they kept separate?—A. Yes; they are kept separate.

Q. How many spring salmon does it take to a case?—A. About four or five to a case. On the Columbia River it takes a fraction over three.

Q. They average larger there?—A. Yes.

Q. And sockeye do not frequent the Columbia River?—A. No; I don't know of any. I don't know of any sockeye below the Straits, excepting in around Point Roberts.

Q. And when the sockeyes are coming in in the last of the season, the humpbacks are running, too?—A. Yes; but they are not fit for canning.

Q. What is done with them?—A. I think they are thrown overboard.

Q. And they cannot help catching them?—A. Oh, no; they cannot help catching them. After the second spring salmon run, we have the cohoe run.

Q. And you pack them?—A. No; we do not pack them at all—they don't come in sufficient quantities to pay.

Q. And their flesh?—A. Oh, their flesh is all right, as far as I have noticed.

Q. And they would be in at what time?—A. In the latter part of August. They follow right after the sockeye run. Some canneries have canned spring salmon, but only for one season. They didn't find it profitable.

Q. And there would be a greater number thrown away or given to the Indians, because they are useless?—A. Yes.

Q. And cohoes—what is done with them?—A. Well, they are very numerous, but we do not fish for them unless the freezers and market-men handle them. Canners leave them alone.

Q. Are cohoes increasing in numbers in the river to what they were?—A. Well, I cannot say.

Q. What effect would it have upon the river if you caught sockeyes continuously, and allowed the humpbacks and cohoes to come free—would they not preponderate?—A. It does not seem to have that effect; but, as I say, I don't know the first thing about salmon breeding.

Q. Have you had some experience in modes of fishing other than the modes of fishing called gill-netting and drifting? Any of the mode of fishing by seines—have you found that a seine would be a more injurious net for catching fish?—A. It might be injurious in this way that it would catch ungrown salmon. I think gill-net fishing catches lots of fish. I don't think they would do any better with a seine. The seine is generally thrown around a shoal of salmon, and it takes them all in.

Q. But a drift-net would not take them all in?—A. Well, I suppose a seine would take them all in a shoal, but a drift-net will take more in the river than any seine will.

Q. But would a seine not be more likely to take more fish out of a shoal than a drift-net?—A. Yes; out of one shoal I think it would.

Q. Have you anything to say about the close season?—A. No; I think the way it was last year is about right.

Q. Would it seriously affect canners if extended to 12 o'clock Sunday night?—A. Oh, yes; they would never get a boat out at 12 o'clock.

Q. The reason I ask you is that many persons think Sunday should not be broken, but you think it should be left alone (*i.e.*, the present season left alone)?—A. Yes; the season is very short, and I think it would not do to hamper us too much.

Q. Then, if the season was half as short you would take all Sunday?—A. Well, I don't think it hurts to use Sunday, and then it lets fish get up the river.

Q. What do you think of artificial breeding?—A. Well, if you estimate that catching lots of fish kills them out, and then we have good runs of fish, I would be willing to give the hatchery the benefit of the doubt.

Q. Do you think any man a British subject should have a license?—A. I think every man, a resident and British subject should get a license.

Q. Should it be transferable?—A. No; I think a man who gets a license should fish it.

Q. Do the cannery men have relays of men?—A. Yes.

Q. And a boat running all the time?—A. Yes.

Q. And ordinary fishermen have one boat and net?—A. Yes.

Q. And would not that be in favour of the cannery boat with four men?—A. Well, you would think so, but I know our experience is that with a good run of salmon they will pile them up, but with a poor run they don't do much; but if it was not for the canneries the four men in a boat would go hungry.

Q. Do you think the fees should be the same on the Fraser, Skeena and Naas?—A. Well, I don't know much about them. I think all should pay $20 alike; I don't see why they should not.

Mr. Wilmot.—Well, sir, we have got some very useful information from you.

By Mr. Armstrong:

Q. I might ask you—you say there is nearly enough white salmon caught to supply the Indians who might be fishing?—A. Well, I don't want to be fastened down to that.

Q. Well, are these fish given to the Indians counted in among the number given as caught in the year?—A. Well, I don't think so; we don't pay for those fish to men fishing for so much apiece, but with a man working by the day of course they would.

By Mr. Wilmot:

Q. Nor cohoes, humpbacks, &c.?—A. No. Did I understand Mr. Arthur to say that he had seen scow loads of fish only fit to be thrown away? Because if he did, I can say that it is not true.

Mr. Wilmot.—No; I don't think he said that.

Mr. Armstrong.—But you have no right to say that any man's evidence is not true; you can say that you have never seen such a thing.

Mr. Lord.—Well, I have never seen such a thing. I have seen fish thrown from the wharf, but not scow loads unfit for canning.

Mr. Wilmot.—Very well, sir, if that is all, and you have nothing more to represent to us, that will do.

It being 12.30 p.m. the Chairman declared the Commission adjourned, to meet again in the same place at 1.30 p.m.

New Westminster, B.C., 26th February, 1892.

Afternoon Session.

The Commission assembled in the Court House and was called to order by the Chair at 2 o'clock, p.m.

Present:—S. Wilmot, Esq., in the Chair; Mr. Sheriff Armstrong, and Mr. C. F. Winter, Secretary.

JOHN J. McDONALD, a native of Nova Scotia, a resident of British Columbia for over seven years, now living some eight miles above New Westminster and describing himself as a practical fisherman, was duly sworn.

By Mr. Wilmot:

Q. Do you desire to make any remarks upon the fisheries of the Fraser River or elsewhere in this province?—A. Well, I desire to inform you that I have been refused a license for the last three years, I think.

Q. You regularly applied for it?—A. I applied at the office here.

Q. Was any reason given why you should not have it?—A. Yes; there was a little reason why I should not have it—the first year I fished on the river with another man who had a license—the second year I didn't take the trouble to come to town to get a license of my own, not knowing there ever would be a limit. The manager of the British America Factory supplied me with a license.

Q. Was it written in your name?—A. No; not that I know of—my name was not on the books the following year when I applied for license.

Q. Then you do not know if it was in your name or not?—A. I think not—I am not prepared to say. Three years I applied for a license and they told me I should not have a license because I did not have a license the year before. I had to go to work in a cannery.

Q. In the cannery or with a boat and net?—A. No; I went to work net mending in connection with the cannery.

Q. Before going any further were you not a fisherman in Nova Scotia?—A. Yes, sir; I fished salmon in Nova Scotia and Newfoundland.

Q. What induced you to come here?—A. Well, I came here thinking there would be good chances of going into fishing or sailing on the coast.

Q. Well, you could not get any license and had to work in the canneries?—A. Yes, sir; I had to work in canneries, or at least the fourth year as I might say.

Q. That was in '91—last year?—A. In the year before—I was refused a license and had to go to Point Roberts.

Q. In the United States?—A. Yes; I went there and tried to get up a trap—I had no means to put out the kind of trap suitable for the place, so I made a failure of it.

Q. Is it trap-nets they fish at Point Roberts or pound-nets?—A. "Pound-nets" I think they should properly be called—pound-nets and seines.

Q. And you could not get on there?—A. Yes; for want of means I could not get on there.

Q. What then?—A. The following year again I could not get a license so I had to go up into the upper country to work.

Q. Lumbering?—A. No; I went up building a telegraph line. Last year I did not apply for license thinking I would not get any, so I was appointed guardian on the river—I asked for the appointment and got it.

Q. Where were you working at on the river?—A. I was appointed for Coquitlam, but the inspector put me down on the North Arm.

Q. And your guardianship extends how far—the whole of the North Arm?—A. The whole of the North Arm—from Westminster down to the Sand Heads.

Q. The Sand Heads? How far out from Sea Island?—A. About a mile and a-half or two miles beyond Sea Island.

Q. Well, that distance from Westminster is how many miles?—A. I call it 18 miles—that was my limit. I was living here in town with my family and I went over the route.

Q. Daily or nightly?—A. I generally went down one day and came back next, or as it happened I generally got towed back and forth by tugs and steam-boats.

Q. Do tugs come up the North Arm to Westminster?—A. Yes, sir.

Q. How many canneries are there on the North Arm?—A. Two in operation.

Q. Where situated?—A. One on a small island between Sea Island and Lulu Island.

Q. Whose cannery is that?—A. It is called the Sea Island cannery—I think it is also called "Munn & Co."

Q. Where is the other one situated?—A. On a small island between Sea Island and the mainland.

Q. Near the North Arm road?—A. Yes; it is not far from the North Arm road coming across from Vancouver.

Q. Whose is that?—A. I understand it belongs to Todd & Sons, or "Todd & Co.," I am not sure which.

Q. What else do you wish to represent before we ask any questions particularly?—A. Well, I don't know as I have any grievance of my own particularly.

Q. As a guardian on the river, was the law carried out?—A. Well, I have only had occasion to take one boat and net.

Q. What for?—A. Fishing two boats under the one license.

Q. Had both of them numbers on?—A. Yes, they had.

Q. Then, they were improperly numbered?—A. Yes, sir.

Q. Is that the only case of that kind that occurred?—A. Yes, the only one I knew of.

Q. It is very possible there might be others?—A. Well, I don't know—I watched them pretty well. It might be possible there were cases I didn't know anything about.

Q. And the extent of territory you had to go over would almost forbid you seeing everything going on?—A. Yes, it would forbid me from seeing unless I made more trips up the river.

Q. Now, as to the canneries—were there any violations of the law by them?—A. No violations that I have seen.

Q. Do you know that it is against the law to throw offal into the river?—A. I was not informed of it.

Q. Was offal from these canneries thrown in?—A. Well, they let it slide into the river.

Q. Are these canneries built upon the land or on piles out in the river?—A. Well, they are partly on piles and partly on the land—the greater portion is on the land.

Q. Where the offal slides down, is land underneath or water?—A. Water.

Q. How deep may the water be there?—A. Well, I could not say—I never happened to sound it; probably there would be 8 or 9 feet or there might be 18 or 20 feet.

Q. There might be 6 feet?—A. I don't know as there is any of them that has as low as 6 feet—it might be 10 feet or more.

Q. Is there much current or a rapid flow of water?—A. Yes; a pretty rapid flow?

Q. As strong there as out in the middle of the channel?—A. Well, at Sea Island Cannery I would say it was; the tide strikes towards the land there.

Q. How wide is the river at the North Arm?—A. It might be approximately one-third of a mile.

Q. And does the principal channel of the river run in the middle?—A. I could not say which side of that island is the principal channel.

Q. Have you noticed if offal put in there is carried away at once or eaten up by little fish?—A. Some possibly might be carried away and some remain and be eaten up. The current is very strong and might carry it away.

Q. Have you been in a cannery when the offal is slid down?—A. Yes.

Q. Have you noticed if the offal stayed there or was carried away?—A. No, not particularly. A few years ago they used to have cribs made to hold the offal. I think that was very injurious to the fish.

Q. What fish?—A. The salmon.

Q. In what way?—A. Well, it was left there to rot.

Q. How are these cribs or bins constructed?—A. Well, they are constructed by having a large box-like place made of one by four lumber and with a vacancy of one to two inches between the slats.

Q. What might be the size of these bins—10 feet square?—A. Well, I am not prepared to say exactly.

Q. Would they be one foot square?—A. Well, I suppose they would be about 10 feet square.

Q. What depth?—A. Well, they were generally built along the bank; they might be 6 or 10 feet at the outside. They were made to suit the bank and bottom of the river, and I think it was injurious to salmon, because it remained there and became rotten.

Q. Then, why was it kept in these bins?—A. Because it was thought better, and would not annoy the fish or the nets.

Q. Then, if it floated out in the river they thought it would affect the run of fish there?—A. Yes; in some cases there might be some little parts of offal that the air gets in, and it will blow up and float like a small nautilus on the water, and it prevents the fish from coming.

Q. And cribs were put there to prevent this?—A. Yes.

Q. Had both canneries you speak of these cribs?—A. No; at Sea Island Cannery I don't think there was any; at the other cannery they had made a shoot. I don't know how they worked it, but it was so as to run, in case the law was enforced, to run the offal into a canoe and have it carried away.

Q. Was it ever run into canoes and carried away?—A. No, sir.

Q. Then the canoes were not used and the offal went into the river?—A. It went into the river.

Q. Then, from what you know of the matter it was the impression of canners there that its going into the river would affect the fish and the nets?—A. Well, I don't know what their opinion is. It was my opinion.

Q. And what do you think as regards health—any settlers there?—A. Yes.

Q. What occupation?—A. Farming.

Q. Were any complaints made to you as an officer that offal was injurious?—A. No, sir.

Q. What is your own opinion on the subject?—A. Well, when offal is thrown in—when the tide backs up the river, it may go on places and rest there at high water when the tide falls, but I think if let go when current and tide are running strong out, it would not injure anything—it would go away.

Q. Then the effect of bins underneath canneries would be to prevent that?—A. Yes; in my opinion the bins were a very bad system.

Q. And this offal that floats back and gets on the land does it decay there?—A. Yes; some will dry and decay and then float.

Q. What effect on the inhabitants has it—is it offensive?—A. Yes; it smells pretty bad when it rests on those shore places.

Q. You have never heard the opinion of settlers living there?—A. No.

Q. If you lived there yourself what would you think?—A. Well, I would think that what was thrown out when the tide backs up would be a little offensive—it would be only a small portion that would get on those shoals. I have drunk the water every night a number of seasons now and never found it affect my own health.

Q. Do you ever put anything in the water you drink there?—A. No sir (laughter).

Q. Could it (the offal) not be conveniently carried off in scows to a reasonable distance or out into deep water in the Straits of Georgia?—A. If the law was enforced they intended, I know, to carry it away.

Q. But you received no instructions to enforce the law in regard to offal?—A. No, sir.

Q. But you were aware it was the law?—A. No; not particularly.

Q. Are there many Indians fishing about Sea Island?—A. Yes; quite a number.

Q. What are the fish principally caught there?—A. Sockeye are the principal salmon caught there.

Q. Do you know anything about the usual catch in a day or season?—A. Oh, I don't go in there of a day—but as many as a boat would carry, say two, or four hundred fish—I think some of them carry that.

Q. Have you any idea what the average catch of a boat would be during a season there?—A. Well, I have never heard.

A. Would it be 1,000, 3,000 or 10,000?—A. Well, I have heard but I really forget, but I think some went over 4,000.

Q. Had you ever heard of any catching as many as 8,000?—A. No; I have not heard, but I would say if they were allowed to fish all the time and canneries take the fish from them they would catch that number—some do catch 8,000.

Q. And you say if they could sell their fish—are the canneries filled up sometimes that they would not take fish?—A. Yes; I have heard they were—that is for a short time.

Q. And the fish that are caught in that way and brought to the canneries and the canneries cannot take them—what are done with them?—A. They are generally salted—the fishermen are only supposed to fetch in so many.

Q. Yes; but if a man catches 400 salmon when he goes away?—A. No; but they generally get away with the first catch and then they are generally limited to 400 for a boat, that is those who are selling to the canneries, and then they (the canners) very often keep in their own boats.

Q. And are all salted—do you know of any thrown away?—A. Oh, not many—a few.

Q. What do you call a few?—A. In a poor time I would call a couple of thousand a few. (Laughter.)

Q. This is done by whites and Indians both?—A. Well, there are few licenses on that route given to Indians. I could not say how many.

Q. Have you anything to do with issuing licenses?—A. No, sir; I have nothing to do but guard the river.

Q. This excessive quantity of fish are generally of the sockeye family, are they?—A. Yes, sir.

Q. In June and July?—A. The latter part of June, July and August.

Q. And is the North Arm a good place for spring salmon?—A. No, it is not good for spring salmon.

Q. Are cohoes caught?—A. Yes: quite a few.

Q. What is done with them?—A. They are packed sometimes, but I don't know of it, myself.

Q. The principal business is with the sockeye?—A. Yes.

Q. What size of mesh do you fish with there?—A. Six-inch, extension measure.

Q. And the length of the net?—A. Oh, they have all lengths—the regulation length is 150 fathoms.

Q. How many meshes deep?—A. Thirty generally on the North Arm—some may have forty meshes.

Q. The fish you have known to be thrown away—would they be from Indians and others who have licenses, or from cannery boats?—A. From both. In some cases I have known the cannerymen to have bought the fish and then could neither salt them or pack them, and have thrown them away; but I never knew but of one case to my own knowledge.

Q. Was this a pretty large quantity, then?—A. Something like 2,000.

Q. Do fish come mixed—red and white?—A. Yes, sir.

Q. What is done with those caught red and white—you say the canneries do not work them?—A. The Indians generally take them and prepare them for their own use. The Indians generally have liberty to take the white salmon and dry them for their own use.

Q. What season of the year would that be?—A. Oh, all parts of the year—there has been a few white salmon canned, but they are not considered marketable.

Q. Have you known any white salmon to be thrown away because not marketable?—A. I have thrown away a few myself, so I suppose others would do so.

Q. And the few you threw away—what number would it amount to in a season?—A. Forty or fifty during a season—I would not have time to salt for my own use.

Q. But you would not throw red ones away?—A. No, sir.

Q. What is the difference in the quality of the flesh—white and red?—A. In the early part of the season they are just as good.

Q. Neither is red later on in the season—are they?—A. No, they are not; but there is not so much difference. There is greater difference between spring and fall in white salmon than in red salmon.

Q. Have you heard complaints on the river of fishermen being unable to get licenses to fish?—A. Well, I have known half a dozen—approximately, there might be more who could not get licenses. They were people who came into the country—principally Scotchmen. They were fishing for canneries and fishing cannery boats—on shares, I suppose.

Q. Were these good, deserving men?—A. Yes, sir; they were all good, deserving men, and were doing very good work fishing for the canneries, as far as I know.

Q. Is it more profitable for a man to fish with his own boat than for a cannery?—A. It is more profitable for him to fish his own boat.

Q. What number of boat licenses would keep each of these canneries running in your section?—A. Well, I would say, in a very poor season when the fish strike in probably for a few days, fifteen or twenty boats would keep them going.

Q. I mean the season through?—A. Oh, well, taking the season through, with the exception of those few days, I think they would get away with forty or fifty boats—some of them more, according to the capacity of the cannery.

Q. Have you an idea of what the capacity of a cannery is—say those down near you—15,000 or 20,000 cases?—A. Something like that, I suppose. If there was a good market, they could put up quite a few more than they do.

Q. Ordinarily, how many boats are required to get a fair catch?—A. Oh, ordinarily, I think forty boats.

Q. They could not supply their canneries with twenty-five boats?—A. Not unless they got outside fishermen.

Q. Are you aware of the law regarding the weekly close time?—A. Yes, sir.

Q. Is it well kept?—A. I don't find any people encroaching.

Q. Did you ever find any violation of it?—A. None last summer.

Q. And the year before when fishing yourself, did you violate it?—A. No, sir.

Q. Are all fishermen that you now have jurisdiction over content, or is there any discontent among them that they would rather not fish on Sunday?—A. I never heard any. I think some would like to fish on Sunday if they could. I never heard any complaining of having to go out on Sunday night.

Q. There are some men who would rather not go?—A. Well, I have not come across them yet.

Q. As an officer on this river, what are your findings as to the hatchery on the river—beneficial or otherwise?—A. My opinion is that it has been beneficial.

Q. Do you think it should be increased, remain as it is, or enlarged?—A. I think, in the interest of the fisheries, it should be enlarged, so as more canneries should get in operation.

Q. What is your idea as to the class of people who should get licenses?—A. I think anybody should who got into a boat and fished. They should be entitled to fish, provided he is a British subject and resident fisherman.

Q. All entitled to one license?—A. One license, if they wish to get it.

Q. What do you think of a man selling his license to his neighbour?—A. I don't think that is correct—it should not be transferable.

Q. Have you had anything to do with the coast fisheries?—A. No; I was only employed for three months. I have fished in Cowichan Bay, on Vancouver Island.

Q. What were you fishing for?—A. Salmon—I fished with a seine.

Q. What sort of a seine—what length?—A. I think about eighty and 100 fathoms.

Q. And what depth?—A. I think the "pound" would be about ten fathoms.

Q. And the arms?—A. Would be less.

Q. What sized mesh did you use?—A. I think the smallest in it was three and a-half inches extension.

Q. Was the bag portion any different?—A. The bag was three and a half.

Q. And the arms?—A. Five to six inches—the nearer you go to the arms the larger the mesh.

Q. And the working of the seine—would the lead-lines drag on the bottom?—A. Well, in some cases they use drag stones when the lead-lines go to the bottom. In other cases they fish in deep water, and they purse them in, and the lead-lines never get to the bottom.

Q. Then you know of purse seines in the Atlantic?—A. Yes.

Q. What view is entertained of purse seines on the Atlantic?—A. Well, by those fishing along shore, that it breaks up the schools of mackerel and interferes with the run of fish.

Q. If the purse seine were used on the coast here would it be more dangerous here than drifting, and catch more salmon?—A. Well, as a rule, they cannot be used in the mouth of rivers, or near the mouths of rivers.

Q. Why not?—A. So many drift logs and things of that kind.

Q. Then, where are they used?—A. Out in the estuaries.

Q. And would drift nets or seines be more injurious—which would catch more fish?—A. Oh, the seine would catch more fish.

Q. And if the seine were drawn across the mouth of a river would fish come up?—A. Oh, that would injure the run of fish.

Q. With regard to the mesh of a seine and a gill-net—would 3½ inch mesh take more fish than 5¾-inch mesh?—A. No; a 5-inch mesh in the "pound" of a seine would not be strong enough—the idea is to have them so as to let the fish mesh.

Q. With 3½-inch mesh, they would not, but would with 5-inch?—A. They would not—or at least not many of them.

Q. You think, upon the whole, that a seine is more destructive than a drift net?—A. Yes; salmon as a rule will not gill into a net in clean water outside.

Q. And therefore you use seines to get around them and they are more destructive?—A. Yes, they are more destructive.

Q. And you think also that the use of seines at the mouth of a river or its estuary would be injurious to the passage of fish up river?—A. To a certain extent some say than a drift net—a drift net will not pay in clean water.

Q. What other fish do you catch besides salmon in your seine?—A. A few dog-fish, a few trout, a few rock cod.

Q. What do you call "trout?"—A. They are like young salmon.

Q. What weight?—A. $2\frac{1}{2}$ to 4 pounds.

Q. Is there anything else caught in the bag of the net less that 4 pounds?—A. I think there has been a few.

Q. Do you know what a smolt is?—A. Yes.

Q. Do you know what a "parr" is? It is much smaller than a "smolt."—A. No; we don't get any of these.

Q. What are done with the little fellows when caught?—A. They were salting them—some were sent to Vancouver market.

Q. Were any thrown away on shore as being useless?—A. No; the Indians take them.

Q. Were they caught in considerable numbers?—A. Oh, it depends upon the season.

Q. Some seasons you would catch considerable numbers?—A. Well, I never fished there except the one season—I may have caught a couple of thousands of them.

Q. Would you catch herring, too?—A. No, sir; I never caught herring.

Q. You have no mackerel here?—A. No, sir.

Q. Then having fished on the coast you could give some idea as to the relative value of the fishing in the Northern Rivers and on the Fraser River—is it just that $20 should be paid here and only $5 on the upper rivers?—A. Well, I would say like this—there is a better market for fish here, and the fishermen can better afford to.

Q. But can a canneryman better afford to pay $20 here than he could on the Skeena?—A. Well, I don't know.

Q. But a man who runs 40 boats on the Skeena, could he afford to pay more—there should be equality?—A. No; I think not—it is more expensive to get up north and labour is harder to get.

Q. Then you think the present system about right?—A. Well, I am not posted enough on these northern rivers to give an idea. I have only fished a while over in Cowichan. I am not prepared to give an opinion as to whether the license fee is too much or not, not being aware of the disadvantages up the coast.

Q. What is the average weight of fish caught down the river?—A. When they first come in they are smaller than afterwards—I think one-half a pound less; the second run would be larger.

Q. What right through would be the average of sockeye salmon?—A. I would say six and a half pounds.

Q. Right through the season?—A. Yes; of course I am not very sure.

Q. If another said seven and a half or eight, you would not say he was wrong?—A. Well, if a man said eight I would say he was wrong.

Q. I suppose you are not well acquainted with the internal working of the canneries?—A. No; not the particulars inside.

Q. Do you think, as an officer, that the limits on which you have to perform your duties are too large for you to efficiently do those duties?—A. Well, no; there is not a great number of boats; I think a change should be made now and then; another officer should take my place; the fishermen generally get their eyes on to an officer, and it would be well to change the officers now and then.

Q. But would a new man know the boats at a new place as well?—A. Well, but he would have better chances of catching offenders.

Q. Well, have you anything else to offer?—A. Well, there are streams up the river and people living along there who destroy fish in the fall of the year.

Q. What creeks have you reference to?—A. Well, those I know of are: The Serpentine, flowing into Mud Bay, and the Nicomekle.

Q. The fish go up there to breed?—A. Yes; in the head waters.

Q. What are they principally?—A. Cohoes principally.

Q. Any sockeyes?—A. No, I think not.

Q. And the inhabitants catch them late in the season? How late? In the month of October, or when?—A. In the month of October—that is, I think, the spawning season. Then there are other little branches coming into the Fraser—Salmon River, at Longley.

Q. You speak of the spawning season of cohoes being in October and November—have you any knowledge of the spawning season of sockeye at other places?—A. No; I have seen them up country the season before last, going through the Quesnell River up in Cariboo; I have seen them pass under the bridge there in October.

Q. Have you seen them actually spawning?—A. No; I think they go up farther than that.

Q. Do you know when spring salmon spawn?—A. No, sir; I am not prepared to say.

Q. Then you draw attention to the propriety of having these smaller rivers looked after during the spawning season?—A. Yes, sir.

Q. Is there anything else you would like to refer to? As an officer, you are generally supposed to know more of the fisheries than other people?—A. Well, it is generally supposed that salmon here is the same as that on the Atlantic coast, but I think different.

Q. What difference is there between the spring salmon here and the salmon on the Atlantic coast?—A. The most particular difference is that salmon on this river are longer in proportion to their size than fish there, and they have a different taste, and are more substantial food than Atlantic salmon.

Q. How do you make out more substantial food?—A. Well you can eat a larger quantity, larger than of Atlantic.

Q. Well, that would not be more substantial, because you would have to eat two salmon here then to one there. (Laughter.)—A. Well, probably I made a mistake in the word.

Mr. Wilmot.—Oh, well, we are all liable to that. What rivers have you fished on on the Atlantic coast?—A. I never fished on rivers; I have fished in St. George's Bay, and have caught salmon, also in Port-au-Port Bay in Newfoundland.

Q. And you cannot say anything about other portions of the Atlantic Provinces, except where you have fished?—A. Well, there is the same difference between all the fish there in different places.

Q. Well, but would that make a difference here wherever they are different grade in different rivers?—A. Well, the feel of the fish is different—what I mean to say is that fish there are more substantial.

Q. Oh, I see you reverse it—you said these salmon were more substantial?—A. Yes, I mean the reverse.

Q. Do you know of any other difference?—A. The tail of the salmon there is not so broad as here.

Q. But if I tell you that the salmon's tail will vary with the river in which they have to travel?—It is a fact that the tail of the salmon will be firmer for this river than for a slower stream—if salmon have to go up a muddy sluggish river its tail will be different to that of the fish that has to go up a rapid clear water. So you see that is no real difference in the fish. And is that the only difference you know of?—A. That is the only difference.

Q. Is there any salmon resembling sockeye on the Atlantic coast that you know of?—A. I never saw any.

Q. Have you seen the grilse—young salmon of 3 and 4 pounds weight?—A. Yes, sir.

Q. Would they resemble sockeye?—A. Well, I don't think they would resemble them so much.

Q. Would they not be silvery and bright?—A. Yes, they would be—they resemble what the fish caught here in winter are more than any other—they are called "silver sides," but I have never caught them—they come into the markets in winter.

Q. Are "silver sides" red-meated?—A. They are a little paler.

By Mr. Wilmot:

Q. Then they would resemble more the grilse of the Atlantic. Have you anything further?—A. No, nothing further.

Mr. Wilmot—Well, we are much obliged to you—that will do, thank you.

JAMES A. LAIDLAW, a native of Scotland, living in British Columbia since 1862, a salmon canner, and at present residing in New Westminster, was duly sworn.

Mr. LAIDLAW.—Mr. Chairman, I am not well enough to answer questions, but would prefer putting in this statement as my evidence, and I will be willing to answer any question you may wish to ask. (Mr. Laidlaw thereupon handed to the Chairman the following statement which was read and ordered to be inserted in the Minutes):—

To the Royal Commission now being held in New Westminster.

GENTLEMEN.—"Many thanks for allowing me to give my evidence in writing, instead of verbal, on account of my health.

"*Re* placing offal in the river: I do not think it can be of the slightest injury to the salmon running in the river.

"1. The greater part of the offal is eaten by scavenger fish in a short time after it is put in the river.

"2. I think feeding the scavenger fish here, keeps them from going to the spawning grounds to destroy the spawn there.

"3. We know that millions of the salmon die up the river and lie putrifying in the small streams and shoals, which must be worse than the small portion of the salmon that the canners return to the river. In a good season the canners and their employees must use from eight to ten thousand tons of good fish, besides the offal. If those 9,000 tons were let pass, the great majority of them would be lying putrifying the same as those that do reach the spawning grounds.

"4. So, for the same reasons, I do not think that from a sanitary view the present manner of disposing of it can be injurious."

Re Licenses:

"Formerly the canneries had forty boats, then they were cut down to about twenty-four—last year cut down to twenty. With twenty-five boats each cannery would still have to employ quite a number of outside licenses to run their canneries so that unless it is the intention of the department to make the capital invested in canneries non-productive, they surely will not place us entirely at the mercy of the fishermen.

"2. By having twenty-five boats, each cannery employs a number of Indians, and their women and their children help in the cannery. Those Indians, by getting employment in the canneries are self-supporting, and, though wards of the Dominion, get little, if any support from them. Without licenses we cannot help the Indians."

Re Hatchery:

"For my part I have not the slightest doubt that the hatchery is a benefit and will be a benefit. I am only sorry to see the money raised here as a special tax on fishing licenses to assist in propagating salmon here, should be taken back east to bonus eastern fishermen, or perhaps worse, instead of using it here to build more hatcheries. And any other manner that may assist in propagating the fish where the special tax is raised for the purpose, as I believe. I can only think that any one asserting that the hatchery is no use, must do so from prejudice. Certainly, the salmon were more plentiful last year than on former poor years. There were parties that said it was no use beforeit was a year built, and some of them, as usual, are of the same opinion still. I am very sorry that more are not being built. I think we might then have enough of fish and stop this squabbling."

Re Close time—Sunday:

"1. Several close times have been tried, but the present close time, I think, far the best for both the Indian and the employer. With a long lay-off it would be hard to get them in their boats before Monday noon, and then many of them of little use, as there are plenty of men ready to provide them with whiskey. A change from the present would, I believe, be very detrimental to all concerned.

"2. That a local commission or local advisory board should be appointed for the province. That they should acquire as thorough a knowledge as possible of the habits of the salmon and all requirements to propagate and continue the industry, was strongly recommended by a committee of the Canners' Association, 4th February, 1891.

"I thoroughly endorsed the report of that committee and have seen no reason to change my mind but would like to add that all the money raised from licenses should be spent in the province to build more hatcheries and propagate salmon generally.

"Yours respectfully,

(Sgd.) "J. A. LAIDLAW."

(Representing with T. E. Ladner and R. P. Rithet, seven canneries on the coast—five on Fraser River, one on Skeena and one on Naas Rivers.)

By Mr. Wilmot :

Q. You say about throwing offal in the river—you say it is not the slightest injury to salmon running in there?—A. I do. I have been fishing here for fifteen years, and certainly the fish are not fewer now than when we started, and for that reason I certainly cannot think the offal is injurious that is run in.

Q. What effect has it from a sanitary stand-point?—A. Well, I suppose, as far as sanitary considerations go—as I state they take out 7,000 or 8,000 tons of fish from the river, and if we didn't take them out, they would lie putrifying like the rest of them do, or most of them.

Q. Was the river very much polluted when you came here or before?—A. Well, I cannot say, as I cannot tell any difference between then and now.

Q. But if all went up and died, the river would be in the same position as then?—A. I don't say all die.

Q. Well, but would it not be in the same position as before?—A. Well, the difference is this: The offal is seen down here and the people think it offensive, but if they would only go up there and see the thousands putrifying like they do, they would think it very little.

Q. Then if not caught, the fish would take their entrails and other offal up with them?—(Laughter.)

Mr. LAIDLAW.—Then most of the offal we put in the river is eaten up by the scavenger fish in the river.

Q. Then you think if these fish went up the river these scavenger fish would follow them and eat the dead?—A. Well, I don't know. I have thought that by feeding these scavenger fish, we keep them from going up to eat the spawn up the river.

Q. Then you also keep them from eating the dead fish up there?—(Laughter.)—A. Well, I know they eat up the spawn at the canneries very voraciously. I have seen them often.

Q. Well, I cannot see this 9,000 tons of fish as you do?—A. Well, if you will figure it you will see this 9,000 tons of fish are good fish—not offal, but good fish.

Q. 9,000 tons of whole fish?—A. Yes; 9,000. You think it does not come in the river? Any man can figure it up in two and a half minutes—I well know that, of course.

Q. Then you think offal not injurious to either fish or the human family?—A. I do not.

Q. You say that millions of salmon die up river and in small streams, and which must be worse than the offal put in? There are few inhabitants there, are there?—A. Well, but do not all those putrid matters come down this river, and though they don't see it, they drink it?

Q. Then what a man don't see, he knows nothing about?—A. Well, there is something in that. Certainly rotten matter on the banks and washing into the stream, it all goes down.

Q. But it has been shown that disease is created in some sloughs, and when left on the shore by the tide it must be worse than the essence coming down the river?—A. Well, I have seen reports from a doctor who says it was not an injury.

Q. Doctors differ and patients die, you know?—A. Well, I am not a doctor and, of course, I leave that point for the department to decide. In my opinion, it is not injurious either to fish or the human family.

Q. In your establishment do you drop offal right down under the floor of the cannery?—A. No; we use it in an oil factory.

Q. Did you think it advisable to use it in an oil factory?—A. No, we didn't think it anything of the kind; but the Department said they were going to enforce the law, and we went into it and had a loss. The Department then acted like fools—they neither enforced it or anything else, after putting us to all this expense.

Q. Then, you went into it because the Department wanted you to?—A. No, but because we understood it was to be enforced—we had to build another cannery just through the vacillation of the Department.

Q. How did the oil factory turn out?—A. It was not a success. I heard that a party came in this morning and reported that Mr. McNeely had bought a quantity of the oil—some 2,000 gallons or something of that kind.

Mr. Wilmot.—Well, I don't know as that was what he actually said—perhaps, if the secretary will turn back to his minutes of Mr. Arthur's evidence, it may be explained.

The secretary thereupon read from his minutes of Mr. Arthur's evidence regarding his reference to the oil and Mr. McNeely, to the satisfaction of the chairman and witness.

By Mr. Wilmot:

Q. You have made oil, then, from refuse, and it has not been profitable?—A. No; it has not been sold for 50 cents a gallon—not from our factory.

Q. Or anywhere else?—A. Well, I could not tell you that.

By Mr. Armstrong:

Q. Could you tell how much it sold for?—A. About 35 cents a gallon.

By Mr. Wilmot:

Q. And the quantity you manufactured?—A. Well, I could not tell you—you must ask Mr. Ladner about that.

Q. Cannot you come near the quantity—5,000 gallons or 10,000 gallons?—A. Oh, something near 100 barrels.

Q. Each barrel would hold how much?—A. About forty gallons, as near as I can state to the best of my knowledge.

Mr. Armstrong.—How many canneries did you take offal from to manufacture this?

By Mr. Wilmot:

Q. And from what canneries?—A. I did figure it up, but I have forgotten just the number of boats we took it from.

By Mr. Armstrong:

Q. But that is not what we want—we want to know how many canneries you took this offal from to make this oil?—A. If you will wait a moment, I will give you both answers—(consulting papers) We took offal from about 160 fishing boats—from about six canneries.

Q. Could you name the canneries, Mr. Laidlaw?—A. Well, there is one of them that was not running; still, I had the boats for them.

Q. But the names?—A. Delta Canning Company, Harlock Canning Company, Findlay, Durham and Brodie, and Wellington.

Q. Did Wadhams?—A. I don't think he did—any one was welcome to send it.

Q. They didn't send all the offal, did they?—A. I think so—we wanted more at the factory.

Q. But did all these five canneries you refer to send all offal down to the factory?—A. I think so—I could not swear to it—the factory wanted more, consequently I suppose they got all was there.

Q. How was the offal conveyed to the factory?—A. We sent it in steamers and scows—we were in our own business at the time and sent it down—the offal went down in our own boats.

Q. Well, how much more could your factory have manufactured if they had got the offal?—A. I could not answer that—I could not even give it approximately.

Q. But could you have consumed as much again if you could get the offal? Five canneries sent their offal down to the factory which was made into oil and other products—could the factory have made up the offal from five others if it had been sent?—A. That I cannot tell you now—but they could have manufactured a good deal more.

Q. Could they have manufactured as much again?—A. Well, I cannot tell—they could have manufactured more.

Q. And in manufacturing the oil you did make—from a financial stand-point did it pay you?—A. No.

Q. Did you ever make an estimate of the loss?—A. Mr. Ladner was in charge of that part of the business more than I was—I cannot give a definite answer.

Q. From the experience you have had in connection with this one oil factory consuming the offal of five canneries, could other establishments be put up that would consume all the offal?—A. Well, you know there is nothing that cannot be done.

Q. Then it is a mere matter of expenditure and trial to do it?—A. Yes, but the question is—is it of any value or benefit to any one—it is a loss to us I can tell you that.

Mr. Wilmot.—It is the first year you have tried. Is it not a fact that many industries fail the first year and afterwards succeed? Was the first year you went into the cannery business profitable?—A. No, sir; it was not.

Q. And the following year it was more profitable?—A. Well, I think if some of those extraordinary witnesses you had here knew how we were the first year we started they would not have given evidence they did. I will tell you, Mr. Wilmot, it is very easy when you have made $30,000 or $40,000 or $50,000 out of it—are you going to leave it? I have lost $10,000 in a year—no one knew anything of that—every man got his pay—nobody knew of my loss—that was no one's business but mine. I know that in some years we made more than we can now.

Q. And those profitable years were more profitable than you can make now?—A. Well, some were, but I certainly understood the business just as well then as I do to-day, but the thing was this—there was a surplus in the market—the demand was not equal to the supply and the price went down to $3.50, and you know how much money you can make out of it at $3.50?

Q. Then on the whole the oil factory has not been profitable?—A. No.

Q. You say in regard to licenses that 25 licenses would not be enough but that each cannery would still have to employ outside licenses to run their canneries, so that unless it is the intention of the Government to make the capital invested in canneries non-productive, they surely will not place us entirely at the mercy of the fishermen. This may bring up some other questions.—A. All right, sir; as long as I am able to speak I am ready to answer.

Q. Can you give the average number of fish taken by each boat during the season?—A. No, I have no notes for that, but I can get them from the books for you if you wish.

Q. You had one year 40 boats—would they average 3,000, 4,000 or 6,000 salmon?—A. No; I will tell you—I saw a report from some witness you had——

Mr. Wilmot.—I don't think you should refer to witnesses who have testified here under oath.—A. Oh, well, as to averaging that number, we cannot do anything of the kind. I was told by one man that he could go out with a bottle of whiskey and a boat and get more fish than with a net; but we never could get any catches of fish like you have been told.

Q. Then you cannot give the numbers of fish delivered by boat—the average delivery?—A. No; there are two good years, you know.

Q. Well, take two good years—what average then?—A. Well, I cannot tell; in poor years I have seen men come in without fish in their boat, and we had to pay them $2 and $2.25 for doing it, and these same would come other times with 300, or 400 sometimes—generally 200.

Q. And how long would the average season last?—A. Between four and five weeks—you can count on four weeks, perhaps more; but you must not take 300 or 400 as the average fish to a boat: I never got such an average, neither from contractors or others.

Q. Well, some have stated they could catch 3,000 and 4,000 during a season, and some as high as 10,000—then your average of 300 and 400 would not hold good on the whole?—A. Certainly not, certainly not; that would be for a single day.

Mr. WILMOT.—Have you any recollection of taking 700 or 800 in one day?—A. From contractors I think I have taken as many as that—that would be in 24 hours. You know our own men fish for ten or twelve hours; two men go into a boat and go out, and as soon as they come in and get the boat cleaned out, etc., two other men get in and they go out.

Q. And do ordinary fishermen fish 24 hours?—A. No; they generally fish on what we call "tides," you know.

Q. Then four men in one boat would have opportunity of fishing longer than two men in one boat?—A. Well, if two men go out in the night, cannot they fish till morning, and if two men go out in the morning cannot they fish till night?

Mr. WILMOT.—Yes; but if ordinary fishermen (2 men) go out, can they fish day and night?—A. Not very well.

Q. Well, then, won't they have an advantage over outside men?—A. Well, I think we get fully as much from our own men as from contractors, taking it for the full 24 hours.

Q. What is the usual size of fish?—A. Well, that is very hard to answer.

Q. If you get 10,000 fish in a day, will they vary very much in size—Sockeye?—A. Well, in a good season it takes eleven or twelve fish to make a case—at least that is my experience—the fish are then smaller; in a poor year I have seen nine salmon make a case—the fish are then larger.

Q. What is the usual calculation of cans from a fish as an average?—A. Well, you see a case is 48 cans; you can very easily figure on that.

Q. Are any of these fish brought in to you when a heavy rush of fish is on hand—can you convert all the fish into use without any loss? A. Yes; almost invariably, and for this reason: we have put up as much as 20,000 salmon in a day in each cannery. We can put up 100 barrels of salt salmon in addition to what we can; 1,360 cases and 100 barrels is the most we ever put up in a day.

Q. How many fish in a barrel?—A. Oh, about 50—I cannot tell exactly—it is in the vicinity of 50.

Q. Well, that would make very nearly 14,000 fish in a day?—A. Well, there you are away out in the pack of salmon canned.

Q. No; I just take what you have said—taking 10 fish to the case?—A. I don't say 10 fish to the case, I said 12 fish.

Q. That is, 12 would be in a good year?—A. Yes; do you suppose it would be a poor year?

Q. Then, 12 salmon to the case in that year?—A. Yes.

Q. And 100 barrels and 50 salmon in a barrel—well, that would be upwards of 16,000 fish?—A. Well, yes; that is all right—we have been caught sometimes like that when we get 20,000 salmon on the wharf. As soon as we do, every one of our men knows that with three blasts of the whistle we have all the fish we can use, and they at once come in with what fish they have, and what fish we don't put up that day we do so the first thing in the morning.

Q. And they are always fit to put up?—A. Well, we never put up all the fish; it would not pay.

Q. Well, those that would not be suitable—do you ever give them to the Indians?—A. Oh, we do—oh, yes; they come and take them away. Whatever the Indians don't take away we shove overboard. They are not fit for our purposes.

Q. Do you call them "short" then, or what is the name?—A. Well, I don't know any name; I can tell them when I feel them.

Q. I thought perhaps you had a name for them?—A. Well, I can tell them when I feel them.

Q. They feed the little fishes I suppose?—(laughter)—A. Oh, no; do you know they never touch them; they have far better things—they eat the spawn.

Q. Well, then, don't they eat the other parts then?—A. Well, afterwards they would, but they never do that until the other is done.

Q. Do you think all *bonâ fide* British subjects and regular men who come here should get a license if they want one?—A. I have nothing in the world to do with that; that belongs to the Dominion Government.

Q. Well, do you think canners should get all the licenses they want?—A. I think the canners ought to get 25 boats as a kind of protection. They have spent their money and have invested heavily in the business. They then will have to get outsiders to catch the fish they want.

Q. Then, should they have licenses?—A. Well, it is a matter for the Dominion Government. I have no objection to outside fishermen getting licenses; still, it is a matter that does not belong to me at all.

Q. And is it a matter for you as to what licenses canners should get?—A. Oh, certainly; it is self comes first.

Q. And you think fishermen should get licenses, and all that apply for them?—A. Well, that is a matter for the Dominion Government.

Q. Well, do you think all canners who put up new canneries should get licenses?—A. Well, I know nothing about it; that is not a matter for me. I put up a cannery myself.

Q. But don't you think they should get licenses?—A. Oh, yes; they should be given licenses.

Q. But this Commission was appointed to look into these matters and report to the Government on them and we want to get all the information we can so as to post them?—A. Well, we have time and time again given our views, and they don't pay any more attention to them than to the bark of a dog. I am tired giving my views to the Dominion Government.

Q. Do you belong to the syndicate?—A. Well, no; we don't belong to that syndicate. I don't know as you can call us the syndicate—we represent seven canneries on the coast—five on the Fraser River and two up north.

Q. These other two are on what rivers?—A. One on the Skeena and one on the Naas River.

Q. When did you form this syndicate?—A. I don't think it is a syndicate.

Q. When did you form this company?—A. Well, it is pretty hard now to say—we started in fifteen years ago.

Q. Then these canneries have been working together for fifteen years?—A. No; about a year ago.

Q. Is the capital wholly amongst the seven canneries, or is there outside capital connected with it?—A. Oh, no; there is no other capital connected with it except the seven canneries joined together.

Q. No English capital or other outside capital?—A. No; we simply united together for—well, protection.

Q. Have you found it more profitable?—A. No; we haven't made a cent (laughter) and we don't expect to make a cent next year—I am telling you facts.

Q. Have you sold all the pack of '91 yet?—A. No; not yet.

Q. Then you don't know if you have made a cent?—A. No; we don't expect to—we have not sold all.

Q. If there is to be an established number of licenses given to cannerymen, what would you consider a fair and just maximum number?—A. We have already stated that twenty-five would be a fair limit. You see, as it was before we had forty—with twenty-five we leave a fair margin for outsiders that we would have to take in.

Q. Then you would think twenty-five satisfactory if a limit is to be made?—A. Yes.

Q. And you think that less than twenty-five would not be satisfactory?—A. No, it would not—perhaps, Mr. Wilmot, you have not followed up matters on the Columbia River—on account of the fishermen having control of them there they had to close down half the canneries there.

Q. But you must be aware the labour organizations now are a ruling power in the world?—A. Well, that is a matter for the Dominion Government.

Q. Well, but that is the very reason why this Commission is here, and the questions put to you here are for no other reason than to gain information for the guidance of the Government?—A. Oh well, that is all right, Mr. Wilmot, but there has been so many

restrictions and taxes put on us that I am really astonished they have the cheek to ask for capital to come forward to develop the deep-sea fisheries—you cannot get a man in Victoria to spend a ten-cent piece on it.

Q. Then you think it an advantage to advocate the canning industry?—A. Certainly.

Q. And it is not advantageous to bring in desirable immigrants to work them?—A. Well, do you mean in numbers?

Mr. Wilmot.—Well, I mean that the class of men who will come and help themselves and you too?—A. Oh well, there are no idle men here in the fishing season.

Q. Well about giving licenses to Indians—do you think they should have licenses?—A. Well, I don't think it would be of much use to them.

Mr. Armstrong.—I think Mr. Wilmot, licensed Indians should have their own boat and net.

Mr. Wilmot.—But if they haven't they will go to the cannerymen and get a boat and net.

Mr. Laidlaw.—Well, I will tell you I had to pay $50 for a boat last year, yet the Government gave one to a saloon-keeper!

By Mr. Wilmot:

Q. Now, you think the hatchery is beneficial?—A. Certainly. I think they should build more—the idea of raising a special tax here and taking the money back east!

Mr. Wilmot.—Let me dispossess your mind of that—there is no special tax here—they pay license fees for fishing in all parts of Canada.—A. But the Government draws from here some $10,000 away from us.

Q. If you found that in other provinces it was more than that what would you say?—A. Then I want the money spent here—I don't want it taken back east.

Q. And you don't want any money from there?—A. No, not a cent.

Q. I am afraid you would not get on very well then. Now take the other provinces—this is the departmental report for 1890—now on page 13, the revenue derived from the fisheries of the various provinces is given—Ontario, $23,666.96, and on page 10 you will find the expenditure also given by provinces, and you will find that in Ontario only $14,539.87 of that $23,666 was expended in the protection of the fisheries of the province.—A. Now, how much does it cost to run the fisheries?

Mr. Wilmot.—That is not the question—I want to show you that there is no special tax.

By Mr. Armstrong:

Q. And you are under a mistaken idea, Mr. Laidlaw, when you say that you are paying a special tax and that this should go to the province of British Columbia specially. I pay taxes and you pay taxes and all this goes into the general fund for the whole country.—A. But the Government said they required a special tax.

By Mr. Wilmot:

Q. How long is it since you have been paying special fees?—A. I cannot tell you from memory.

Q. Then you think hatcheries are good things?—A. Yes, and we want more of them; if they put up more hatcheries, I am perfectly willing to pay my share.

Q. No, if you got more hatcheries you would not pay for it. It would come from the general fund of the whole country without any more additional taxes being levied—your idea is not the right one. Now, do you think hatcheries should be built down at the foot of the rivers or at the head of them?—A. Well, I would leave that to the department—at present the spawn is gathered at Harrison River and taken down here to the hatchery—why not have a hatchery up there? I think both spring salmon and sockeye should be cultivated, and I have not the slightest doubt in the world that the spring salmon will become sufficiently plenty to be used by canners.

Q. But what about the white spring salmon?—A. Well, that is a thing I can't tell.

Q. But we cannot discern in taking eggs from them?—A. Well, an expert can nearly tell in taking the white salmon or the red one.

Q. You think the present close time is correct?—A. Yes; I don't think it could be improved—in fact, it would be injured, if changed any, and be very detrimental to all.

Q. Should license fees be all alike?—A. On this river? Oh, as far as this river is concerned, all licenses should be alike; but up north they have not the benefit of the hatchery or anything of that kind, and I don't think they should pay the same as we down here.

Q. Then, you think the benefit of the hatchery worth the difference?—A. Yes; we never had such a good poor year as this last one, and I cannot but give some benefit to the hatchery. I am perfectly willing to pay my share, if another hatchery is to be built here. But on the Skeena I don't know it would be necessary, as we get plenty of what we want.

By Mr. Armstrong:

Q. Is there a canners' association in existence at the present time?—A. Certainly.

Q. Well, it has been said, you know, that it is not.

By Mr. Wilmot:

Q. Is what you mean by association this advisory board—as you say in your written evidence submitted, it was strongly recommended by a committee of the Canners' Association, 4th February, 1891.—A. Yes, and that recommendation was made to Ottawa before—I thought you had a copy of it. I will send one down here for you. I would only add—build more hatcheries.

Q. But if you think it is an extra tax paid here, we would have to put another tax upon you to build it?—A. Well, I would be quite willing to pay my share. There is only one thing else I would like to say—that Mr. Armstrong said that a man could with $5,000 build a cannery and make $25,000 a year. I am astonished that Mr. Armstrong would say that in evidence, because no one but a fool could give such evidence. I am perfectly willing to run every cannery that we have got, if they give me $25,000. I will run them all for twenty years. You see it costs us $5,000 for solder. Another thing is, one man said in evidence here that ten licenses were worth $10,000. Why in the world won't he come to me, or why did he not come last year? He would be as rich as possible—why, we would give him the canneries to run them.

Q. One question more—what is the value of fish?—A. Well, that I cannot tell you.

Q. But you bought a lot of fish, did you not?—A. I had three men—contractors. I had to pay 20 cents for them. I had ten more on contract. Them I paid 15 cents, and then I got all the boats I could possibly get.

Q. You put it down, then, as very ludicrous that ten licenses were worth $10,000. Now, many fishermen say they have caught 6,000 fish, and at 20 cents apiece these would be what?—A. $1,200, I suppose.

Q. Then, ten licenses would be more than $10,000. I think, judging from what you have said here, that a license is worth $1,000 to a man. You packers have made $20,000 in a year?—A. Well, I am under oath, and I have stated that I didn't make a cent.

(After a few desultory remarks which were not relevant.)

Q. There is nothing more then that you wish to say?—A. No; nothing more, I think.

The Chairman declared the Commission adjourned at 5.15 p.m. to meet at 10 a.m. on the 27th February, 1892.

New Westminster, B.C., 27th February, 1892.

Morning Session.

The Commission assembled in the Court House at 10 a.m. and was called to order at 10.20.

Present:—S. Wilmot, Esq., in the Chair; Mr. Sheriff Armstrong, Secretary Winter.

CAPTAIN G. N. COOPER, a native of England, 14 years in British Columbia, master mariner, and resident of New Westminster, was duly sworn.

By Mr. Wilmot:

Q. Now, sir, what do you wish to present to this Commission?—I have first of all some complaints to make.

A. Against whom?—A. Against the Dominion Government and its agent. I have been a fisherman since my boyhood up and I have been engaged at the fisheries in different capacities ever since in this country—also in the United States and in England as a boy.

Q. So you are thoroughly conversant and able to give a pretty good view on all fishery questions?—A. Yes; last year I equipped the steamer "Dreadnought."

By Mr. Armstrong:

Q. Just give us what you want about fishing?—A. Well, I built and equipped the steamer on purpose to engage in the fisheries and to put her in service as a fishing steamer. I applied for license.

By Mr. Wilmot:

Q. For fishing where?—A. All over the coast—I applied for license to fish all rivers.

Q. Any especially?—A. None especially—my object in building the steamer was to catch fish and bring them to wherever I had a chance best to dispose of them.

Q. That would take in Fraser River, Naas, and other rivers?—A. Yes; I applied for license to Mr. Mowat to fish on the Fraser River and was refused. The only reason Mr. Mowat gave was that I was well enough off now and had a steamer and should not have a license. I told him then that perhaps if I had spent all my money for whiskey I would get a license. I had a license the year before, but he said as I had not fished for a year I had lost my chance for getting one. I also asked him if it was possible for me to obtain permission from the Dominion Government to select a stream on the coast where fishing operations were not carried on, to stock it, and to get the river for 5 or 10 years myself. He said I could not do that.

Q. You made the proposition that you would stock it yourself?—A. Yes; and he said he could do nothing in the matter. I told him I thought it was pretty hard after spending all my life in the fisheries, and being a British subject, and had spent my money in fitting out a steamer to engage in the fisheries—deep-sea as well as in rivers—and then those who were spending their money in whiskey could get licenses.

Q. How long did you fish under license?—A. One year—in 1884—excepting, of course, on the other side. I fished on the Columbia River over a license.

Q. A license then had to be obtained there?—A. Yes; for $5.

By Mr. Armstrong:

Q. And were you a British subject there, and a license granted to you?—A. Yes, sir; it was customary at that time when all could get licenses.

Q. And from the Federal Government or the State Government?—A. That I cannot say. Well, I think it must have been from the Federal Government, because the Columbia River flows between the two States.

By Mr. Wilmot:

Q. And you are sure it gave you permission to fish on the Columbia River in the two States?—A. Yes.

Q. What was this license for?—A. For salmon—there is no other fishery there.

Q. And then you came here?—A. Yes; that was in '78, I have remained here ever since.

Q. What is the capacity of your steamer?—A. Well, unfortunately I had to sell her.

Q. Would it be out of the way for you to state the value of the steamer?—A. $5,000.

Q. Then you have been fishing on the Fraser and elsewhere since—in what way?—A. I have only lately sold the steamer. I have not been fishing since.

Q. When did you sell her?—A. About six months ago. I had to go towing, as I could not get a license; I had to go towing instead.

Q. Since you could not get licenses on the river, have you fished?—A. Yes; I have been foreman of fishing camps for canneries; besides that I have had boats and nets at different times belonging to the canneries.

Q. What do you mean by camps?—A. The canneries don't fish all their boats at one place—they establish camps along the river. The fishermen catch the fish in the river and carry them to the camps, where they are put in scows. Each cannery has from two to three or four camps.

Q. What company were you foreman for?—A. I have been foreman for four or five companies.

Q. Then you are thoroughly conversant with the system carried on?—A. Oh, yes.

Q. Well, will you just relate—when boats come with fish to the scow, what would be a fair average number of the fish?—A. In a good season 300 to 600 in a day.

Q. And how many days is the usual period during sockeye season?—A. Well, that would last from two to three and it has lasted as long as four weeks. I don't mean continuous fishing—sometimes they run better than others.

Q. But the usual run is how long?—A. From two to four weeks. When the run is light, they are in much smaller numbers.

Q. Do you count the fish as they are brought in?—A. Yes; the foreman counts the fish. It is usually entered in books, and the fishermen, if they have a book, would do so, too.

Q. Would this book belong to the foreman?—A. Oh no; to the cannery. There is also a printed form with the numbers of the boats, and the fish brought in are entered opposite each number.

Q. Fish caught by No. 18 would be entered opposite No. 18?—A. Yes.

Q. What is the largest number you have known to be brought in?—Oh, a boatful. 700 to 800.

Q. And do you total up the total at the end of the season?—A. Oh, no, the canneries would do that.

Q. And what is the everage catch in a season?—A. In a good season 8,000 to 12,000 fish in a boat.

Q. And are any of these injured that are brought in?—A. Oh no; practically not.

Q. And how long will the boat remain there?—A. As a general rule men come in and discharge the fish from the scow after coming in.

Q. How many fish would a scow hold?—A. A small one would hold 3,000.

Q. And a large one?—A. Well, some used to hold 10,000; some were larger than necessary; the larger ones would hold about 6,000 or 7,000.

Q. Do these scows generally leave the camps with fish all in prime condition?—A. Generally; almost without exception.

Q. Have you known any instances when they were not?—A. I have known one or two instances; I have known half a scow load thrown away from it being injured from the weather when hot.

Q. Have you any term "short," or otherwise, to indicate these fish?—A. No; there is no special name.

Q. When scows arrive at the canneries—you know of the process?—A. Yes, I am thoroughly conversant with the whole process.

Q. What plan—are they then pitched up on the wharf?—A. They are generally put up in boxes or cranes and often with an iron-pointed fork; the point is put in the head and the fish are thrown up. They are then cleaned at once. The wharves are always covered and the cleaners are right at the edge of the wharf, and they clean them right there.

Q. What is the process of cleaning?—A. They cut off the heads, fins and tails; these are first cut off, and then the fish is cut in pieces to fit the cans.

Q. And the offal is taken out too?—A. Yes, I consider that all offal.

Q. And then?—A. It is cut in suitable sizes to fit the cans.

By Mr. Armstrong:

Q. How many pieces will a fish make?—A. Four or five.

By Mr. Wilmot:

Q. Well, now, take the sockeye—what is the average weight?—A. They usually go from 10 to a case when fish run large and when smaller 11 to 12; the average weight of the fish would be a trifle over six pounds.

Q. In both short and long seasons?—A. Yes; that is a general average from one season to another.

Q. And would fish not lose during a heavy run?—A. I never noticed any difference.

Q. One fish will then make from 4 to 5 cans, you say?—A. Yes.

Q. Then the next process is, I suppose, put through until they get in the boxes?—A. Yes.

Q. Well, take the average of establishments—how many hands are there employed altogether, including Indians, Chinamen and foremen, not boatmen?—A. Well, from 300 to 400; that would include boatmen and all persons employed about the cannery.

Q. How many persons would be employed in the cannery alone?—A. Probably from 100 to 200 inside.

Q. You are taking a fair average?—A. Yes; I think it would be nearer 100—say 120 or 150—it depends on the season and run of fish they get and the men they get to work. Of course that applies to a big season; in a small season they will not require as many.

Q. How many white men would there be inside?—A. 5 to 7 or 8; the rest would be all Chinamen and Indians.

Q. Have you any idea of the usual price paid per diem to Chinamen and Indians?—A. It is done generally by contract—if Chinamen are on day work they get $1 to $1.25 a day—I think that is all they get under the Chinese contractor.

Q. During your time and to your knowledge, a contractor will take in, clean, and pack the fish at so much per case?—A. Yes.

Q. Have you any idea of how much per case?—A. No, I have no idea,

Q. And if he hires Indians or Chinamen by day work—how much?—A. I have an idea, as I told you before, $1 to $1.25.

Q. And you have knowledge that some fish would be spoiled on top of the scow, and thrown off into the water?—A. Well, that is unusual—I have not seen it—I have seen a few fish thrown off that were exposed to the sun.

Q. A few were thrown off but that is exceptional?—A. Exceptional.

Q. And if large numbers are brought to the cannery and they cannot get through, would they be canned next day?—A. Well, they generally can get them in cans next day or if they have too many fish they can stop their boats and not get any more.

Q. What is a fair average of the number of cases turned out of a cannery—15,000?—A. Yes, I think that would be the least—that is when the factory is working at full capacity.

Q. I mean all the year through?—A. Oh, yes; that would be a high average I think.

Q. How many boats would it take to fairly supply a cannery turning out that number?—A. In a good season twenty boats.

By Mr. Wilmot:

Q. Some seasons there would be a great many more cases turned out?—A. Oh, yes: in a big run it would be the full capacity of the cannery whatever that might be—some might go as high as 30,000 cases.

Q. And in a low season that might be reduced?—A. Yes, to 5,000 or 6,000.—I think there is only one cannery that could turn out the highest number. I don't know exactly what his capacity is, but I think quite as high as that in a good run.

Q. I understand last year he turned out 25,000 cases—was that a good year?—A. I was away towing on the coast and so am not well posted as to what last year was.

Q. With regard to the offal business—the fish you say are cleaned, heads and tails, and entrails taken out, and then it falls into the water?—A. Yes.

Q. What do you think—is it injurious to water, fish, or anything at all?—A. It is not injurious to the river at all unless through carelessness it is allowed to remain on the banks of the river.

Q. How would it go on the banks of the river?—A. As a general rule the canneries are near the bank—40 or 50 feet from the bank—there is so much offal thrown into the river, some must get on the bank when it is not all eaten up. If the offal were put in deep water I don't think we would hear anything of the offal. I have seen the offal eaten so fast we could not find a trace of it at all. I think though the Chinese should be prevented from catching these small fish—suckers we generally call them, though there are several kinds—The Chinese frequently dip up buckets full while they are eating the offal—I think they should be stopped from doing this.

Q. But would not that be preventing men from catching food—just like they say canneries should be prevented from catching so many salmon?—A. Well, but let them eat salmon—it would be much better.

Q. Have you seen offal lodge along the banks and sloughs?—A. Not as much as dead fish—I have seen thousands of dog-salmon and humpbacks left on the banks by the Indians and they have been much worse than all the offal put together.

Q. Then you think offal not injurious either to the river or to the people who drink the water?—A. No, for this reason—there is nothing but a few heads that ever decompose in the river, and the quantity is so small that it cannot hurt this river. All the heads put together from New Westminster to the mouth would not be as much as I have seen in one hour of dead fish on the Harrison River. I do not think as much injury can be made from this offal as from the dead fish on the Harrison River.

Q. Have you seen many dead fish coming down the river?—A. Yes, I have seen millions strewn on the water from Harrison to the mouth of the river—floating on the water. I would suggest that canneries be compelled to discharge all offal into deep water and not let it remain around the shores—it is very offensive to the smell.

Q. Not to the health?—A. No, I don't think to the health.

Q. But if you think the smell from dead fish would be so great, would not offal be as bad?—A. Well, I think the offal should be put into deep water.

Q. What is your idea of it being converted into oil or fertilizer?—A. I think it a good idea if it would pay—there were two factories over at Astoria and they were run successfully.

Q. Is it not possible for the same to be done here?—A. I think, if in the hands of the right parties, it would pay.

Q. Would it be more expensive for canneries to put the offal in the river or to put it in the factory?—A. Well, on the Columbia river the oil factories sent for the offal.

Q. Then it would be more expensive to put offal in the deep channel of the river?—A. Well, yes it would be well to have arrangement made—over on the other side they have a frame work made to catch all the offal and it runs from that into scows, and it was taken away by the oil men.

Q. Could not that be done here?—A. Well, it could be on the lower part of the river, but I don't think it could be on the upper portions.

By Mr. Armstrong:

Q. But have not cannerymen all steamers of their own?—A. Oh yes, but they have no time to look after that.

By Mr. Wilmot:

Q. What number of factories would be sufficient to utilize the offal here?—A. One would be sufficient.

Q. If the offal was thrown into scows from the canneries would it not pay?—A. I doubt if an oil factory could keep a steamer—if they got the offal for nothing they could make something out of it.

Q. Would it not be better for cannerymen to pay the cost of this among themselves, instead of being under the penalties of the law as at present?—A. Yes, I suppose so—I think that would be far the cheapest way. I have heard of putting offal in the ground but it could be done cheaper, because after you have the offal there you would have to turn up a hole to put it in.

Q. And you think the only feasible way would be by making some use of it as fertilizer or oil? A. Well, I don't know as a fertilizer would be needed here; it is a new country.

Q. Well, but neither do you consume the fish here, do you?—A. Well, I worked once in a fertilizer factory myself, and it don't pay.

Q. But they made oil, as well, did they not?—A. Yes, but what would they do with the fertilizer?

By Mr. Armstrong:

Q. In Astoria what do they do?—A. Oh, they threw the fertilizer away—they did not use it.

Mr. Armstrong.—That was almost as bad as the offal.

By Mr. Wilmot:

Q. What is this fertilizer like—is it a powder?—A. Well, yes—like stuff you sweep up from the house; it is very light stuff.

Q. Then you think, after all, a factory for utilizing the offal might easily be carried out here, and that one factory would accommodate the whole of the canneries, and that oil factories on the Columbia River were a success?—A. They were a success. I know that one of the partners told me that he clubbed $125 a month. He had a quarter interest, and he had made that besides his wages. He told me that himself.

Q. What do you think of the close season?—A. I think the Sunday close season is all right now; that is the only feasible close season I know of. As to the other, there is one month now in which there is no fishing done at all.

Q. Well, I think that is an understood thing among the canneries. Is it a fact that spring salmon are more white than red?—A. Yes, they are more white than red—fully 75 per cent of them are white. There are four or five varieties here of quinnat, but all are called spring salmon—any fishermen can see the difference, though we have no name for them.

Q. Are they like Columbia River salmon?—A. No, none are like Columbia salmon.

Q. What is the distinctive difference?—A. Well, you can only see the difference—they are much larger over there than here.

Q. And are there any white salmon in the Columbia River:—A. No, all are red—the question of white salmon was never raised.

Q. And here 75 per cent are white, taking the season through?—A. Yes.

Q. Which are more merchantable?—A. Oh, the white are worthless.

Q. What are done with them?—A. Oh, Indians take all they want, and the rest are thrown away.

Q. And the probable weight of these?—A. About twelve pounds.

Q. Why do you say "different species" here?—A. You can see the difference—in the larger ones the distances between the extreme of the back and the belly are greater than others.

Q. The early runs of them here in April and May, when they come in here first, as regards flavour of flesh, are they equal to Columbia River salmon?—A. Oh, yes; equally as good. In spring time they can be eaten, but not in summer. I have been made sick myself; but the red ones are always good.

Q. It is remarkable. We have been asked by many to breed spring salmon, but you say they are not fit to eat?—A. Except in the spring; but then there are no other fish in the market.

Q. And if other fish were in the market they could not take at all?—A. Oh, no.

Q. What run of fish comes after the sockeyes?—A. The cohoes, but they are worthless.

At this point of the examination, Capt. Cooper stated that his business engagements would prevent him from continuing his evidence at present and requested that he might be allowed to continue his evidence at 3 p.m. Both Commissioners assenting, the witness left the stand.

Mr. Commissioner Higgins arrived and took his seat as one of the Commission, at 11.30 a.m.

THOMAS CUMMINGHAM, a native of Ireland, living in British Columbia since 1859, a resident of New Westminster and describing himself as a fruit-grower, stock-breeder and farmer, was duly sworn.

By Mr. Wilmot:

Q. Do you wish to make any statement?—A. I feel deeply interested in this question of disposing of the offal, and the welfare of the fisheries generally. I differ from all the evidence I have heard as to its value as a fertilizer—I think it very valuable.

Q. For the purpose of producing cereals or fruit?—A. Fruit especially and in the event of our going into beet-root growing.

Q. Your knowledge—is it from experiment or on good authority?—A. Oh, I have the best of authority.

Q. What effect has it from a sanitary stand-point?—A. I should think it very good.

Q. From what cause—its putridity or offensiveness of smell—or does it create disease?—A. I think it apt to create disease.

Mr. Higgins.—Not what you have heard, Mr. Cunningham, we don't want hear-say evidence.

By Mr. Wilmot:

Q. What of your knowledge, do you think it creates disease?—A. Well, I think it would taint the water and I know if it lodges upon the beach or shores it becomes offensive and deleterious to health.

By Mr. Higgins:

Q. That is your opinion—have you any practical knowledge?—A. Well, that is my opinion—I know it has a bad effect upon dairy stock if they drink the water. I was through Chilliwhack and through Sumas last fall and saw hundreds of thousands of dead fish there.

Q. And is there no way of stopping fish from dispersing themselves dead in the river?—A. There is a way of catching them and grinding them as a fertilizer.

By Mr. Wilmot:

Q. What is the effect on dairy stock?—A. Well, the cows drink the water and it taints the butter.

Q. Have you any knowledge of its effects on the milk ?—A. I have heard farmers say so.

Q. How does it effect hogs—does it show the effects in the pork ?—A. Yes ; it gets unmarketable.

Q. Then as a fertilizer and oil—you think the fertilizer would be valuable for agricultural purposes ?—A. Certainly ; there is fish guano made in Norway sells in London for £6 to £10 sterling a ton.

Q. Have you had any trial of its effects as a fertilizer here ?—A. I have seen it tried in the raw state.

Q. Have you used any made in the factory here ?—A. No ; I have not. There is an unfortunate opinion prevailing that our lands in this district are sufficiently rich as to not need a fertilizer—it arose because this neighbourhood is very rich—but in other places it is not so there—Mr. Higgins will know in Vancouver Island the trees are withering for want of a fertilizer. I think the fertilizer would be useful for both agricultural and horticultural purposes, and when we get the knowledge how to make it properly we will ship it away to England and other places—but we don't need to ship it—we need it here. I expect in a few years from now I will be able to use 50 tons of fish guano a year, and if we go into the raising of beet-root we will want every pound we can get.

Q. If it were made, you would consume a lot of it and you think others would do the same ?—A. Yes, I would and I think others would. I think too that steps should be taken immediately to utilize the humpback salmon—they are poisoning the small rivers and streams in this country and it is a very small matter if bins were made. A ton of green fish will make 400 pounds of dry fertilizer.

Mr. Higgins.—Suppose this offal, Mr. Cunningham, were towed out into deep current of the river would it taint the water as now ?—A. Oh, no ; I think it would not, but I think it would be a gross waste of very valuable material.

Mr. Wilmot.—Well, then, why don't you go into this profitable business ?—A. Well, that is not my business—I am a consumer.

Mr. Higgins.—Well, but we will admit there is no way of utilizing that offal ?—A. But, I don't think so.

Mr. Higgins.—But suppose there is no way and there is no factory—what would you do with it ?—A. I think I would tow it out to deep water—that would be better than leaving it around the canneries.

Mr. Higgins.—About these hundreds and hundreds of salmon you see in Chilliwhack—they would taint the water too, would they not ?—A. Yes.

Q. And for years back this has been done ?—A. Yes.

Q. And if there had been no natural law to thin them out they would have choked up the river long ago with their numbers would they not ?—A. Well, I have no doubt that much of the land in this district has been enriched by dead salmon.

By Mr. Higgins :

Do you think that salmon die after spawning ?—A. Well, a great many.

Q. Do you think, with the late Mr. Mowat, that 25 per cent get back to sea ?—A. Well, I don't know.

Q. What do you know of this sickness said to be derived from offal ?—A. I know nothing except what I have heard from Delta and other places.

Q. Well, but that might have come from other causes ?—A. Yes, it might.

Q. Have you any practical suggestion to make for disposing of this offal ?—A. I don't know.

Q. Has anything been tried ?—A. I think there is an oil factory down the river.

Q. Using offal ?—A. Yes.

Q. You say dead fish at Chilliwhack have an effect on the milk ?—A. Yes.

Q. Do you throw away the milk ?—A. Oh, no ; I do know this, that where hogs pasture and eat these fish we keep them for another year to get rid of this fishy taste.

Q. And if they ate many dead fish, you would have "fishy" pork?—A. Yes, I suppose you would.

Mr. Wilmot.—Have you seen this article in the "Colonist," Mr. Higgins, about the analysis of samples of offal?—A. Mr. Higgins.—Oh, yes; I have seen that.

Mr. Cunningham.—If you wish to see authorities as to value of fertilizers I have them here.—A. Mr. Higgins.— Oh, no; never mind—we know it is a good thing, but the question is simply how to do it with success.

Mr. Wilmot.—Q. Have you anything to make mention of, with regard to the limitation of nets?—A. Licenses?

Mr. Wilmot.—Q. Yes.—A. I think it would be unfair if you place cannerymen at the mercy of the fishermen. I saw the effects of that on the Columbia River. I had a friend who dropped $175,000 just through such a thing.

Mr. Wilmot.—Q. Have fishermen control of the Columbia?—A. They had then—the fishermen forced the price of fish up to 60 and 65 cents.

Mr. Higgins.—75 one year—I had a friend who lost money too.

Mr. Wilmot.—Q. Would it be equitable if each fisherman, a *bona fide* British subject, should be entitled to one license?—A. It depends on the number applying.

Q. Would you limit the number?—A. Yes.

Q. What number should that limit be?—A. I think 500 about right.

Q. The fishermen say they cannot get licenses to fish and consequently are labouring under difficulties—now with 500 that is the case. You are not prepared to say then, whether they should—all practical *bona fide* British subjects—be given a license or not?—A. Well, no; I think the number should be limited to a certain number—they should not be transferable by any means.

Mr. Wilmot.—Q. What are your views on the Sunday close season? Should Sunday be kept as a close season?—A. Yes, I believe in the observation of the Sabbath—I think when we try to amend the Divine Law we get into difficulties.

Q. You mean the whole of Sunday?—A. Yes, I mean the whole of it—I don't see any reason why a man should fish on Sunday night when other men don't do other work on that day.

Q. What are the effects of the hatchery on the river?—A. Decidedly beneficial I think.

Q. With regard to your views on licenses—you appear to be an intelligent man—do you favour any discrimination of fees in obtaining licenses—should the fee be alike, to fishermen and canners?—A. I think there should be uniformity.

Q. With regard to this river and all other rivers in the Province?—A. Well, I think in order to permit the northern rivers to compete with Alaska a discrimination should be made in their favour. The northern coast is dangerous to navigation and the reverses heavier.

Q. Have you any knowledge of the quantities of fish taken by canneries and their size?—A. Not very much.

Mr. Higgins.—Q. What is your opinion as regards the increase or decrease of fish in the river? Do you think the river over-fished?—A. I think it has been, but the hatcheries I think have supplied the difference.

Q. Then you think with a hatchery, intelligently carried out, there is no danger of decrease of the fish?—A. No, I think not.

Mr. Wilmot.—Q. And if the hatchery produces so many more fish the hatchery is making more offal. (Laughter.)—A. Well, we will get more fertilizers. I do hope the Government can do something to utilize these humpbacks—anything that can be done to utilize these fish and make them into fertilizers would be a good thing.

Q. But should not this offal be utilized first?—A. Well, I don't know—I think one just as bad as another. If any gentlemen will pay a visit to Chilliwhack, they will see for themselves.

Mr. Higgins.—Mr. Chairman, has any medical evidence been taken as to the effects of this offal?

Mr. Wilmot.—Yes; we have had medical evidence.

Mr. Higgins.—Well, I think subpœnas should be at once issued to all medical men within reach and get their opinions on this matter—also the mortuary statistics and record of deaths, &c.

Mr. Armstrong.—Yes ; I think the city health officers should be summoned, too. You cannot summon a man and get him here this afternoon—you cannot expect a man to be here before Monday.

Mr. Higgins.—Well, I cannot wait here for all time—I think you should get these men. We have lots of evidence waiting in Victoria and I must go back Monday.

Mr. Wilmot.—Well, if you will just give the names of persons you want, we will try and get them.

Mr. Higgins.—Well, Mr. Armstrong knows them—he knows all the doctors in town.

Mr. Armstrong.—Then you think we should prove it is not healthy.

Mr. Higgins.—Whether it is unhealthy.

Mr. Armstrong.—But it is not health alone—it is also the destruction of a lot of good material, that otherwise could be made use of.

Mr. Wilmot.—Well, summonses have to be signed by all three Commissioners, but we have not used any owing to your (to Mr. Higgins) absence, but as the Board is now full, and it is desirable to issue summonses we might send Mr. McNab down to ask any one you would like to be here.

Mr. Higgins.—Well, I think Dr. Wilson should be summoned.

Mr. Wilmot.—Do you think that it is necessary to issue a subpœna to Dr. Wilson?

Mr. Armstrong.—I do.

Mr. Haggart.—I do.

A summons was thereupon issued to Dr. Wilson to appear before the Commission at 10 a.m. on the 29th February at New Westminster ; and at the request of Mr. Higgings, letters were written requesting the attendance of Drs. De Wolfe Smith, Fagan and McLean before the Commission at 2 p.m. this day.

The Commission adjoured at 12.30 p.m.

New Westminster, 27th February, 1892.

Afternoon Session.

The Commission re-assembled at the Court House at 2 p.m. Full Board present. CAPTAIN COOPER, being present, was permitted to resume his evidence.

By Mr. Wilmot :

Q. Then you gave your opinion in regard to offal being non-injurious, and that it might be made use of beneficially by making it into oil and fertilizer?—A. To make oil. I don't see my way clear to make fertilizer.

Q. Have you any knowledge of the injury of saw-dust?—A. No direct knowledge, but I think it would be injurious for this reason—I have often noticed fish nibbling at any little thing in the river—I don't think that was with salmon—the saw-dust in going into a fish's gills would lodge in passing out. A salmon is a very delicate fish and I have known salmon to die after slight injury.

Q. You have seen saw-dust in their gills?—A. I have not seen it, but I think if it lodged it would injure fish.

Mr. Wilmot.—I may say that it is a fallacy which has much predominated in the eastern provinces that saw-dust killed fish by getting in their gills ; but we never find saw-dust in the gills of living fish, but when fish are dead, saw-dust may get in their gills, but never in the gills of living fish. The saw-dust is injurious by stopping vegetable growth in the beds of rivers, &c., and that is where the injury comes in, and though salmon may go through a lot of saw-dust, they would never get it in their gills.

Mr. Higgins.—But this witness thinks saw-dust does injury to fish—he thinks it gets in their gills.

By Mr. Wilmot:

Q. What do you think of the limitation of nets?—A. I think the present size of net sufficient.

Q. But the number of licenses given to fishermen and canners?—A. I think myself that the licenses can be readjusted—I think it is not fair and equal as it stands at present—the canners have almost enough licenses to get along with Indian labour alone, and an independent fisherman cannot get the chance of making anything at all, except in a poor season, when the independent fisherman is much in demand. I think the canners might be allowed one-half the number they require. The condition of things is quite different here to what prevails on the Columbia River. There they are white fishermen, but here it is not the same. I think if a limit is placed on the river, the canners should be given about one-half and the independent fishermen the other half—I think that is but fair.

Mr. Wilmot.—But would you give one license only?—A. One license—not more.

Q. What number would you give to canners, then, on the supposition that there was no limit?—A. Oh, as many as they like.

Q. If one license were given to each *bona fide* fisherman, there should be also a limit, should there not, to the licenses given to canners?—A. If licenses are unlimited to fishermen, they should also be unlimited to canners.

Q. Then, would it not have the same effect then as that which you have referred to, viz.: that one would master the other, if unlimited to canners? The fishermen only get one—would not the fishermen be kept out of service?—A. Well, I don't look at it in that light; my object is to say if we give licenses in unlimited numbers to fishermen, we must also do the same to canners.

Q. Then, unlimited to canners?—A. I would say, if canners are limited, also limit the number of licenses issued on the river, as well—for instance, if 600 are enough for the river, give canners one-half and fishermen the other half—if the department considers 600 too small, give both parties the same, no matter what number.

Q. But if 600 was the limit and 300 the number given to the canneries, there might be enough canneries put up to make it almost useless to continue work?—A. Well, that is a matter which the canneries would arrange among themselves, for no business man would go into a business unless he thought he would get a license.

Mr. Higgins.—Pardon me, Mr. Chairman, I would suggest that Captain Cooper might give way for Mr. McNeely, a gentleman who has come here to give evidence and has but a short time at his disposal—Capt. Cooper can come again on the stand, if he will be good enough to give way for the present.—A. Oh, certainly,

Mr. Wilmot.—Very well, then Capt. Cooper we will conclude with you afterwards.

THOMAS McNEELY, a resident of Ladner's Landing, and in British Columbia for twenty-nine or thirty years, describing himself as a merchant, was then duly sworn.

Mr. McNeely.—What I came here for is to correct a statement made in the paper—I will show it to you if you wish to see it.

By Mr. Wilmot:

Q. A statement made by yourself sir?—A. No, by another party. The witness here read an extract from the report of the proceedings of the Fisheries Commission in the *News-Advertiser*, of 27th February, 1892, *re* evidence given by Mr. W. Arthur on the previous day. (Continuing) I wish to state that I did not buy this oil. I tried this oil in 1890—I used a barrel or so—last year I didn't use any of any account. It is not good as a lubricator and I have no use for it.

By Mr. Armstrong:

Q. You didn't buy any of it in 1891?—A. I did not.

By Mr. Wilmot:

Q. Did you sell any of it?—A. No, I did not. I just wanted to correct that statement—that is my reason for coming here.

By Mr. Higgins:

Q. Perhaps Mr. McNeely can give some views about the health of the community down the river?—A. There were some deaths from typhoid fever down there last summer during the fishing season.

By Mr. Wilmot:

Q. Have you formed any views of the probable reasons for this sickness?—A. I have not.

Q. Have you ever drank the water?—A. No.

Q. Why don't you drink it?—A. I don't like drinking water at all.

By Mr. Higgins:

Q. Does Mr. Ladner drink much of it? (Laughter.)—A. I don't know.

By Mr. Wilmot:

Q. What is the impression of the injury derived from offal there?—A. Well, I could hardly tell that.

By Mr. Higgins:

Q. Have you ever known of any case of illness traced to drinking Fraser River water?—A. I don't know.

Q. Did you ever live in a large city?—A. No.

Q. Any town where large streams ran by?—A. No.

By Mr. Armstrong:

Q. Do you think oil from offal is as good as dog-fish oil?—A. Not for lubricating purposes.

By Mr. Higgins:

Q. Do you know of anything as to its use as a fertilizer?—A. I believe it is considered good as a fertilizer.

By Mr. Wilmot:

Q. For general purposes?—A. Well, I think more for vegetables.

Q. Is there a ready sale for fertilizer?—A. Well it has never been introduced enough—I could not tell.

Q. But it has been used?—Yes, small quantities of it, but as to whether it would pay, I don't think any one has experience enough to tell.

By Mr. Higgins:

Q. There are quite a number of Chinamen emyloyed during the canning season about Ladner's Landing?—A. Quite a number.

Q. Could their labour be dispensed with?—A. I don't know how.

By Mr. Higgins:

Q. Could they not get white men?—A. I don't think they could.

Q. Nor Indians?—A. I don't think they could.

Q. And they consider Chinese labour most effective?—A. I think so.

By Mr. Wilmot:

Q. Do you think every *bona fide* fisherman and British subject should get a license to fish?—A. Well, I could not say—I never paid any heed to it.

Q. But should resident fishermen, in your opinion, be placed in such a position so they could get a license?—A. I think so.

Q. If that were generally known, would it add to immigrants coming to the country?—A. Well, I don't know—there might be fishermen enough in the country to take all the licenses they could use.

Q. Any inducement would be good that would induce immigrants to come and take the place of Chinamen, would it not?—A. Well, yes, if they could give labour when they got here.

Q. But would it be an inducement, if an immigrant knew he could get a license if he wanted one?—A. Yes, I think so.

Mr. Wilmot.—Very well, that will do, sir; unless, gentlemen, you have something further to ask the witness.

Mr. Armstrong.—No, nothing further.

Mr. Higgins.—Oh, no; that will do.

Capt. COOPER was recalled and continued his evidence.

By Mr. Wilmot:

Q. We were last speaking something about licenses, I think?—A. I stated that I had made application for a license—one license to fish salmon—that is, one on any river on which I wished to go—I wanted one here, and if I went to the Skeena or Naas, I wanted one for each river, and in each case I was refused.

Q. But if you got a license for the waters of British Columbia, would not that cover all?—A. Yes, if there were licenses of that description; but I was willing to pay for a license on each river.

Q. And you could get neither?—A. I could get none. The only reason that was given me was that I was well enough off and had a steamer and had no need to do fishing. I told Mr. Mowat that was the very reason I built the boat, but I had to go towing, and afterwards sold the boat.

Q. You attribute it to this cause that you could not get a license to fish?—A. Yes.

Q. You were away for a season and then could not get licenses to fish?—A. Yes, you see some seasons are poorer than others, and then I went steam-boating.

By Mr. Higgins:

Q. Were you willing to go in the deep-sea fisheries, too?—A. Yes, I was ready for all kinds.

By Mr. Armstrong:

Q. But there was nothing to prevent you going out in the deep sea?—A. Yes, but that is only in winter; I wanted to fish in the rivers. The second year I had to go towing and eke out the expenses in that way, instead of fishing, as I wanted to. I considered that it would not justify me in equipping a boat for deep-sea fisheries, unless I could fish anywhere I chose.

By Mr. Wilmot:

Q. Your view of the deep-sea fisheries is within three miles of the coast?—A. Yes, certainly, and I also asked Mr. Mowat if he would communicate with the department and let me stock a river and then let me have it for five or ten years; but he would not do it for me.

Q. And did it never go any further?—A. Well, that is what I want to know—if he did not I want to make that application now. My reason for wanting 5 years is that the time for the sockeye returning to spawn is from 3 to 4 years, so if I placed a limit of 10 years I would only then have 6 years to fish.

Q. You spoke of being on the Columbia—are there fish hatcheries there?—A. I have read that there are—there were not when I was there.

Q. And you draw the conclusion that by starting a hatchery—?—A. I didn't intend starting a hatchery but wished to stock it after a plan of my own.

Q. Will you not tell us this and give us information?—A. Well, that is a secret—I would rather not tell that. I wished only to have the privilege of controlling the fish I had hatched out myself. I wanted to stock the stream for myself and then after my time it would belong to the Government.

Q. Then you intended hatching fish?—A. Yes. Oh, well, it is the same way—there is no secret about that.

By Mr. Armstrong:

Q. I think it would be well if Mr. Cooper would give us this information.—A. Well, will this information go through the Commission to the Government?

Mr. Wilmot.—Every syllable will go to the Government along with the report from the Commissioners, etc.

Mr. Higgins.—Oh, well, if Capt. Cooper has some process of his own I don't think he should be pressed for it. The last question you asked Mr. McNeelly—about 300 licenses being issued and about hurting their business—I said I thought it was equitable if a limit was placed on the number of licenses on the river, if fishermen should have half and canners the other half. I meant to say that if not enough fishermen to take them up the canners should take up the balance.

By Mr. Wilmot:

Q. If 300 were given to canners and 300 to fishermen it would bring them down to 15 licenses each—*i.e.*, the canners—now, if there were more canneries built it would bring down the number to even less.—A. Well, the business will adjust itself—no canneries will be built unless they are going to pay. In a poor season, 600 boats will be well enough.

Q. Then you think the river can be over-fished?—A. Yes; the river can be fished out.

Q. What is the experience on the Columbia River?—A. Well, the boats were so thick—there were 1,000 boats on the river—the boats on the bar were so thick that hardly a salmon could get by.

Q. Would you consider that an over-fished place—too much fishing at the mouth of the river?—A. Yes; I think fishing should be kept within Garry Point and the bar outside in this river. In three seasons over there after they got so many boats—the year before I went there they had probably 500 or 600 boats at the outside—that was in '76 or '77 I fished first—and they doubled the number of boats. Fish were fairly plentiful, but after that—well, the result will show—there are nearly a quarter of the canneries there now as were there some years ago.

Q. Is the mouth of the Columbia River much the same as the Fraser?—A. Oh, yes: except that the Columbia River is on a much larger scale.

Q. If 300 or 400 boats were fishing at the mouth of the river here, it would be in proportion to the 1,000 boats at the mouth of the Columbia?—A. Oh, yes: it would be a great deal more.

Q. And are you satisfied that too much fishing at the bar is prejudicial to fish?—A. Yes, it is, I have observed since I have been here that fish have run later and the quality of fish has depreciated very much.

Q. Then do I understand you that the proportion of fish caught in the later seasons—probably due to over-fishing—is not in as good condition for canning as those earlier?—A. No, they are not—I think they are outside too long as they come later—I think fishing on the bar has caused that—I would not feel sure about that only that I have noticed that after the close season—Saturday and Sunday—the fish afterwards come in in greater abundance and drop off at the latter end of the week. If it was only on Sunday night when fishing commences I would say it was because the fish have come in Sunday, but I have noticed they run thick on Monday and then run thinner through the week.

Q. It is you think the constant fishing at the mouth keeps fish from coming into the river and that excessive fishing there would more or less affect the general fisheries of the river?—A. Yes, I think so.

Q. And do you say then that your views are that excessive fishing there has caused a tendency to have later runs of fish in the river afterwards?—A. I think so—they are getting later all the time.

Q. The earlier fish come in and are caught and that late fish are in worse condition than earlier ones?—A. Yes: I would not undertake to say that in one or two years or more—I would not say fish would come in earlier—it would take time—it is gradual—we would not see the effect in one or two years.

Q. Then that would be apparently borne out—all the canners say they would desire fish for canning from the first run?—A. Do you mean that fish from the first run should be hatched out?

Q. That fish from the first run should be taken and their eggs hatched out?—A. Oh, yes; I would agree with that because the first fish in are the most favourable by far.

Q. Is it your experience that sockeye are the most valuable?—A. Yes, it is sockeye we are discussing. I am more in favour of hatching out red spring salmon if possible for the reason they bring more money into the country, because a fishermen catches a spring salmon and gets from two bits to 50 cents and that money is left here while the money for canning mostly goes out of the country. The money a Chinaman gets we get no benefit from that—then money goes for tins and very little is left here.

Q. Then you think shipping fresh fish is more desirable than the canning business?—A. Yes, certainly; it is a question which will benefit the community more and if we can get a $1 left for each fish instead of a few cents it is so much better.

Q. Do I understand you to say the catching of fish for shipment fresh would be much more desirable for the employment of white labour than canning?—A. Oh, yes; there would be no use for Chinamen there.

Q. And no offal?—A. None whatever.

Q. While one-third of the sockeye goes in the river?—A. Yes, about that.

Q. Do you know what freezers get for their fish?—A. Yes, from 10 to 15 cents per pound.

Q. And how much do canners get?—A. Well, I think all the canneryman gets the benefit of is 2 cents, probably not more.

Q. Do you think the freezing of sockeye fish would be profitable?—A. Probably not because there are such great numbers we could not get away with them. There is a limited market for fresh fish while there is practically an unlimited one for canned goods. I don't wish to prejudice the department against the canneries as against the freezers, but I simply state what I think would be most beneficial to the country.

Q. What advantage has a cannery where a canner has a boat with four men and fishermen have but two?—A. Oh, outside fishermen will catch more fish every day.

Q. Why?—A. Well, for the simple reason that the fisherman gets so much for every fish he gets while the other gets $2 a day. I know all about it—I have been there. I have had many camps and have had to fire men who were engaged and had sold their fish to fishermen.

Q. If two men fish twenty-four hours they would in all probability be likely to catch more than two men would in twelve hours?—A. Well, yes; of course—it looks that way I know.

By Mr. Armstrong:

Q. But as a rule the men who fish for themselves fish more hours than those employed by the day?—A. Yes, I have fished for the twenty-four hours myself.

By Mr. Wilmot:

Q. You would not be much use then to yourself or anybody else would you?—A. Well, I slept in the boat on the end of the net as it drifted down.

Q. Well, if you have nothing further Capt. Cooper, I think that will do—I think that we have gone pretty well over the ground.

Mr. THOMAS LADNER, of Ladner's Landing, B.C., who had previously given evidence before the commission requested permission to be heard further and was duly sworn.

Mr. Ladner.—What I wish to say is this that in giving my evidence I went on to say that I was simply representing the Wellington Cannery. I omitted to say that

with Mr. Laidlaw and others I represent seven canneries, and I wish to say that I represented the seven canneries in my evidence.

By Mr. Wilmot:

Q. And you are one of the representatives of a company with others of seven canneries? How many on the Fraser?—A. Five, and one on the Skeena and one on the Naas.

Q. A company formed for mutual interest?—A. A company formed for mutual interest.

Q. A syndicate?—A. No, merely our own capital.

By Mr. Armstrong:

Q. Well, Mr. Ladner, it has been stated here that you had principal charge of the oil factory for this company—now, would you kindly state to the commission the capacity of the canneries and the quantity of oil, &c., and what you did with the offal?—A. Well, this year according to instructions from the department, or the representatives of the department here, we went to the expense of building an oilery at a cost of $3,000 or $4,000.

By Mr. Wilmot:

Q. Do I understand you to say that the department asked you to build an oil factory?—A. No, but the Government said they intended to enforce the law.

Q. That was in existence?—A. Well, I don't know. I don't know. I don't read the law, as a rule—we leave that to persons who are paid to tell us.

Q. Did you have to ask that it should not be enforced? I may say that the minister rescinded it for the one year only, therefore last year the statute would hold good, and the law should have been enforced.—A. I understand it in this way, from the man who had charge of the business here—Mr. Mowat—that they were going to enforce it, and we went to work to provide against it, though much to our regret.

By Mr. Armstrong:

Q. Did they enforce it?—A. No, they did not. We complied with it, while everyone else was allowed to go free.

By Mr. Higgins:

Q. What did you do?—A. We built an oilery at a cost of $4,000.

Q. Did you make anything?—A. No, we did not; and yet Mr. Wilmot wants us to build another.

By Mr. Wilmot:

Q. No; I may mention that what I said was that your Provincial Government here were inducing Crofters to come here, and that a company was being formed for disposing of fish offal by erecting oil factories, &c., and what I also said was that from accounts given by scientists and others, it would be beneficial for these projects to be started?—A. You are speaking on theory, Mr. Wilmot. I am speaking from practice. During my experience, Mr. Wilmot, I have found a man can make any amount of money on paper, but when it comes down to practice, it is a very different thing—that is the trouble with your scientific men: on paper they are all right, but when it comes down to practical application and hard facts, they are wanting. Now, your scientists have spoken on paper about making this offal into guano, and that it was worth so much money—$30 a ton, or even more, I think they said. Now, we have manufactured this fertilizer, but it is worthless. We are willing to take $20 a ton, yes, anything for it, to get rid of it. I have heard parties state here that the fertilizer could be shipped and the oil sold, but I am speaking with practical knowledge acquired from practical experience in the matter.

By Mr. Higgins:

Q. Have you ever planted it—ever tried it in the ground?—A. It has been tried—Will Rich tried it at the Landing in a small way, but he did not find much out.

Q. Well, you have good land there, Mr. Ladner. Suppose it was put on the poor land?—A. Well, perhaps it would be good there, but it did not seem to make any difference. We are quite willing to sell it to any one very cheap—to any one that wants to experiment on it. I am going to send some to Westminster for sale and am going to have some tried this year.

By Mr. Wilmot:

Q. Did you make any calculation at that factory what it would be to you as a fertilizer?—A. No; we reckoned the guano as nothing—that is our loss.

Q. Well, if guano is worth $34 a ton down east, would it take all that to take it there?—A. Well, there is no query at all, because you cannot reduce it to such a dry state that you could take it there—the crews would not take it, because there would be such a stench nobody could remain near it.

Q. I suppose you know what coal oil is?—A. Oh yes, coal oil is the very essence of Eau de Colonge compared with the fertilizer. (Laughter).

By Mr. Armstrong:

Q. I see Dr. Fagan is here now, and as he may have very little time we might go on with him, if Mr. Ladner will give way—no doubt he has covered what he desired to say?—A. Oh yes, I am willing to make way for the doctor—if there is any other matter occurs to me I can let you know of it again.

Mr. Ladner thereupon retired.

———

CHARLES FAGAN, M.D., of New Westminster, a native of Ireland, living in British Columbia about five years, and practising medicine in New Westminster and its surroundings, was duly sworn.

By Mr. Higgins:

Q. I would like to ask Dr. Fagan whether he is aware of any bad effect among his patients from drinking Fraser River water?—A. I think so.

Q. Is it marked?—A. Yes, decidedly marked.

Q. In what way?—A. Typhoid fever, and it is increasing every year.

Mr. Wilmot:

Q. Do many cases prove fatal?—A. Yes they are the worst cases we have in this province.

Mr. Higgins:

Q. You say many prove fatal?—A. Yes, a fair proportion.

Q. Traced directly to the water of the Fraser River?—A. Yes, that was my opinion.

Q. Any cases on the higher levels?—A. No. none.

Q. And during the fishing season?—A. Yes, during the fishing season.

Q. Not from waters, etc., around their own doors?—A. No, not that I am aware of.

Q. Does a stench arise from cess-pools or cisterns?—A. I have not noticed that.

Q. Have you ever been up as far as Chilliwack?—A. Yes.

Q. Have you ever observed the numbers of dead fish on the water there?—A. Yes.

Q. In great numbers?—A. Yes, in great numbers.

Q. Then a person drinking water impregnated with dead fish would have the same case?—Yes, but at the mouth of the river where the tide ebbs and flows and the offal is left there and then the sun plays upon it, and of course the effect would be much greater.

Mr. ARMSTRONG.—We are very much obliged to you doctor for coming here—we don't want to detain you any longer than necessary. There is nothing further I wish to ask.

Mr. WILMOT.—Anything else Mr. Higgins?

Mr. HIGGINS.—Nothing more.

Mr. WILMOT.—That will do Dr. Fagan—thank you.

Mr. THOMAS LADNER, of Ladner's Landing, who had given way for Dr. Fagan, the previous witness, was now recalled.

Mr. LADNER.—Dr. Reinhardt, of Vancouver, could give you important information on that point—he is the doctor down at the Landing—also Dr. Wilson.

By Mr. Armstrong:

We have summoned Dr. Wilson. (Continuing.) Q. I want to find out how many gallons of oil you made and from how many canneries you took offal?—A. We made about 100 barrels, each barrel containing on an average about forty-five gallons—we took offal from about 160 boats—five canneries.

Q. Did you get the whole of the offal from five canneries?—A. Yes, we took all except on one occasion—the Delta one day was staging the bins and the whole of the offal dropped down—with that one exception the whole of the offal was taken.

Q. You had the product from five canneries in this factory to use and you produced about 4,000 gallons?—A. Yes, about that—4,500 gallons or 4,000 gallons.

Mr. ARMSTRONG.—Q. What did you get for it per gallon?—A. A portion of it sold at 30 cents and some at 40 cents—average about 35 cents and half of it we have still left. We are refining it and trying to make it better.

Mr. WILMOT.—Q. To what class of individuals do you sell it—for local or export purposes?—A. Oh, well; it is used for skid purposes.

Q. Do farmers use it?—A. No, not at all—I have used it myself for lubricating purposes but it is no use—it gums up.

Q. Is there any process of refining it for that purpose?—A. No, I don't think so—the more you refine it the worse it gets, unless you put something else with it—it seems to get more gummy—they use crude oil for skid purposes where if you take the refined article it will be no good.

Q. Then it is better in the crude state for skid purposes?—A. Well, I would say that if we sold more.

Q. Is your establishment a large one?—A. Pretty large—last summer we had four men employed. When you speak of actually running it, it would be necessary to have four men, or five, or perhaps six, and a steamer and two scows for every cannery.

Q. And that complement of work would run the factory satisfactorily as far as quantity is concerned?—A. Yes, as far as quantity is concerned, but not provide the steamer you use, the more unsatisfactory it would be.

Q. If it would prove satisfactory it would be a convenient way for canneries to get rid of offal?—A. By all means.

Q. Do I understand you to say that the fertilizer produced is in a liquid state?—A. Yes, it is not in a dry state.

Q. But it could be dried?—A. I don't think so—it has been tried before at Burrard Inlet and they could not make it dry enough to ship it.

Q. Would not the process of heat make it fit for shipment?—A. No.

Q. Could not it be sent in barrels or tanks?—A. Well, I don't know—it is not exactly a liquid—it is a pulp, but the expense would be so great to make it fit for shipment that it would be of no use.

Q. That is only theory too.—A. That is theory—paper.

Q. It is unfortunate, sir, your first trial in making oil?—A. Very unfortunate. I would recommend one more thing before I quit. According to my ideas of the matter it would be well for us to have here appointed in British Columbia a local Advisory Board, and which would save the Government all the expense of sending our friend Mr. Wilmot over here, for I think if we had a Board here of good level-headed men we could look after the business better than at present.

CHARLES STANLEY, a native of England—18 years in British Columbia, residing along the Fraser River and describing himself as a fisherman, was duly sworn.

By Mr. Wilmot :

Q. Well sir, what do you want to say?—A. Well, I think the licenses are issued very unfairly, and I think there should be a limit of licenses on the river—about 600—but canneries to have half and the fishermen half—such freezers, such as Port and others, should have no licenses, because they hand them over to the canneries in July.

Q. And if they don't hand them over?—A. They should then have licenses—they should not be transferable in any way—they should be entitled to licenses if they deal legitimately in fish, but selling them to canneries is wrong.

Q. Would one license be sufficient for each fisherman?—A. Yes ; they are not entitled to more.

Q. And on those terms you would be satisfied?—A. I would be satisfied—in regard to offal—I think it should be taken from the canneries and thrown in salt water.

Q. Why do you come to that conclusion?—A. Because it remains around the water and effects the water and you cannot drink it—it makes you sick.

Q. Have you had any experience of the effects of sickness from it?—A. Yes ; it made me sick several times.

Q. A permanent sickness or for a few days?—A. For a few days.

Q. Have any of your neighbours been effected except for a few days?—A. Well, many have been affected—the Indians won't even take the water from the shores—they go out in deep water and get it. The factory below is not built to get rid of it. It could be easily taken out to the Gulf and other fish would soon eat it up.

Q. Have you ever fished under license?—Yes, sir ; I have both fished and ran camps for the canneries. I don't think Indians should have licenses.

Q. Why?—A. Because the Government gives them ploughs and cultivators, &c., and allows them to fish all the year round—the Government don't give me any ploughs or cultivators.

Q. The Indians, though, claim to be the rightful sons of the soil before you came here?—A. Yes ; but they have the right to fish the year round.

Q. What about the license fees?—A. I think fishermen should pay less than cannerymen do.

Q. Why?—A. Because the cannerymen employs daily labour and has the whole profit out of the fish—he gets them cheaper.

Q. Have you ever fished on any other rivers?—A. Yes ; on the Columbia and Skeena.

Q. Should there be any difference between the fees on the Skeena and the Fraser?—A. No, nor in any other river in the province.

Q. How do you fish on the Columbia River—under license?—A. No, sir ; I never knew of any man having to get a license while I was there—you don't require any.

Q. Was your average catch of salmon pretty good?—A. Some years it was—some years it was not.

Q. What was your average catch under your license?—A. The average for those three years was about 4,000 fish.

Q. And the average price you got for them?—A. About 10 cents.

By Mr. Wilmot :

Q. What are your ideas as to the close season—the prevention of fishing on Sunday?—A. I think that about right—I think I would let it remain as it is—from Saturday morning to Sunday night.

By Mr. Higgins :

Q. And suppose this offal was towed out into the current, would that relieve you?—A. No, I think if thrown anywhere in the river it would be taken back by the tide.

Q. Would it not go out with the tide if thrown out—there is quite a current, you know?—A. No, I think the incoming tide would bring it all back.

By Mr. Wilmot:

Q. Does it effect your nets in fishing?—A. Yes, it gets in among the meshes and gives a fellow much trouble to get it out.

Q. Do you ever get any entrails in the meshes?—A. Yes, often.

Q. If all the offal were put in the river a large portion would be taken out by the tide would it not?—A. Yes, a large portion would, but a large portion would come back with the tide.

Q. And get in your nets?—A. Yes, it gives a good deal of trouble getting them out.

By Mr. Higgins:

Q. Do you ever see any dead fish in the river?—A. Yes, a good many.

Q. Would they not be as much harm as offal?—A. Well, no doubt they would but they should be taken out.

By Mr. Higgins:

Q. It may be an obligation of the Government to take them out. Are fish floating down in comparatively fresh state or not?—A. Sometimes they are—sometimes they are not.

Q. Have you been far up river, Mr. Stanley?—A. Yes, I have been up the Harrison River.

Q. Many fish dead there?—A. Yes, I have seen many of them.

Q. Are fish in Harrison River the same as here and do they go back? The late Mr. Mowat said that only 25 per cent ever got back?—A. The farther they go up of course it is harder for them to get back.

Mr. Higgins.—There must be a great number of those fish and they must have an effect upon the river.

Mr. Wilmot.—Well, they get them in the nets.

Mr. Higgins.—A few—but they dissolve, most all of them—the bodies of fish dissolve very fast in salt water—they soon disappear.

By Mr. Wilmot:

Q. What is the average weight of fish you catch?—A. About six pounds.

Q. Have you any experience in seine fishing?—A. Yes, I have done some seine fishing.

Q. Where?—A. In Mud Bay.

Q. Would you consider seine fishing or net fishing with drift nets, more injurious?—A. I think a seine is—it would take more fish.

Q. Do you think seines should be allowed at the mouths of rivers?—A. No, sir; I think it decidedly injurious.

Q. Have you formed any ideas or views in regard to the hatchery on this river?—A. I think the hatchery is good.

Mr. Wilmot.—Very well, sir; that will do if you have nothing further to state.

Dr. W. DeW. SMITH, M.D., of New Westminster, a native of Canada, and a practising physician and surgeon in New Westminster for 6 years, was duly sworn.

By Mr. Wilmot:

Q. The object, Dr. Smith, in having you come here is to ask you for your views from a sanitary stand-point in regard to offal being thrown into the river?—A. Do you mean as regards its effect upon the population?

Q. On man, or on fish, as far as that is concerned.—A. Well, I hardly know just where abouts to start—if you will just give me some idea.

Q. Well, are you aware that offal is thrown in from the canneries?—A. Yes; I know that for a fact—I have seen it.

Q. Do you think the offal thrown in would effect the water in any shape?—A. Yes; I think it would—more particularly where there was slack current.

Q. Where there were slack currents would it be more injurious to the health of persons—residents ?—A. Well, I may say there is no uncertainty as to that—a large number of authorities say that sewage does not effect the water—in fact some people say people get fat upon it. There was a Royal Commission sat in England some time ago which found that it did not effect the water injuriously, so it is a point not settled yet.

Q. Well, from your own knowledge—can you say injurious effects are arising from offal ?—A. I have no personal knowledge.

Q. What are your personal views as to the correctness of offal being thrown into the river ?—A. Well, that is a question which I have given too little interest to—of course we are above the offence here—but I think in a river like we have here it does little hurt.

Q. Does it do any harm ?—A. Well, as I have told you I have been here 6 years, and I have seen none of it.

Q. Have you been down the river yourself to see ?—A. Well, I have had practice down as far as Ladner's, and I have had no experience in its bad effects—if deposited in the channel it would be better than in shallow water where it would lie and decompose.

Q. Then from your personal knowledge you know of no bad effects from throwing offal into the river ?—A. No, none at all.

Q. Are you one of those who think that throwing offal into the water would cleanse it or purify it ?—A. No, it would not cleanse it.

Q. It would change it somewhat from the normal state ?—A. Yes, but when I say "not injurious" I mean if it is flowing water—if in stagnant water or in a place where it would decompose, it certainly would be injurious.

Q. Then if making a lodgment along the shores of the river or in shallow water it would be injurious ?—A. Yes ; if the water was consumed from that immediate neighbourhood it might produce disease like dysentery and such like.

Q. Would it have a tendency to produce typhoid fever ?—A. No, typhoid fever is a thing which only comes from another case of typhoid.

Q. But, would typhoid be produced from deposits on the shore which would produce miasmatic effects ?—A. No.

Q. Then you don't know of its having produced any injury to health ?—A. No, I do not know of any it has produced.

Q. But it would if deposited in bays and sloughs where it would be exposed to heat ?—A. Yes.

Q. But not in flowing water ?—A. No, because in flowing water it would be carried away and eaten up by scavenger fish.

By Mr. Higgins :

Q. Doctor, you are Health Officer of this town ?—A. Yes.

Q. What is the state of the general health of the inhabitants ?—A. Good.

Q. Any sickness in the summer ?—A. Yes, a little.

Q. Any cases of enteric in summer ?—A. Well, they usually start in September or October.

By Mr. Wilmot :

Q. Is that after the fishing or during its continuance ?—A. It is generally after the fishing season.

By Mr. Higgins :

Q. You practice outside this town ?—A. Yes, sometimes—in cases where parties would be patients of mine.

Q. Any cases of typhoid fever in town ?—A. Yes.

Q. And on the higher levels where people would not drink water supplied from the river ?—A. Oh, yes ; above that.

Q. Have you ever been called to Ladner's for typhoid or enteric fever ?—A. No.

Q. Have you ever had any cases that you would attribute to offal?—A. No—not at all.

Q. Do you ever drink Fraser River water unadulterated?—A. Yes, it is not worse than Ottawa River water—I have had some of that.

Q. Have you ever been up to Chilliwhack?—A. No—not above Mission.

Q. Have you ever seen any dead fish in the river?—A. Well, I have seen some floating in the water and along the bank.

Q. Then you think if any typhoid fever in this town it is not attributable to drinking the water of the Fraser River?—A. No, I would not say that, but I do think it would be attributable to the water being contaminated higher up—typhoid is produced always by a previous disease—it produces microbes—that we hear so much of now (the newspapers of the day being full of accounts of "Koch's lymph") and these microbes are in the intestine canal and the way they spread is by evacuations.

By Mr. Wilmot:

Q. Typhoid must produce typhoid?—A. Yes.

Q. Where was the first case of typhoid from then—A. Well, (Laughter) I cannot tell that.

Q. It is not contagious?—A. No, it is not.

By Mr. Higgins:

Q. A healthy person coming in contact with a person with typhoid fever—would they get it?—A. Well, if they inhaled the evacuations—it is generally dispersed by inhalations from stools where they are thrown away.

By Mr. Wilmot:

Q. Would effects from diarrhœa produce typhoid fever?—A. No.

Q. Then you say this enteric fever—it is comparatively in the fall of the year?—A. Yes, they start in the fall and go on through the winter.

Q. What is enteric fever?—A. That is simply another name for typhoid.

Q. Then from your knowledge of offal by being deposited in the bays and sloughs, the effects would be in the fall would it not?—A. Yes, I suppose it would.

Q. And these lodgments of offal would be after the fishing is over, and results would then follow?—A. Yes, that would be the results then.

Q. And enteric diseases are most in the fall and winter?—A. Yes.

Q. Well, we are much obliged to you, Dr. Smith, for your coming from your duties, but it is one of those matters about which we wished to derive knowledge, you know.—A. You are quite welcome, sir.

No more witnesses presenting themselves to give evidence the Chair declared the Commission adjourned at 4.10 p.m. to meet again at the same place at 10 a.m., on the 29th February, 1892.

Mr. Wilmot.—I wish to inform the public that the Commission will wind up its business here, if possible, on Monday morning.

New Westminster, B.C.,
Monday, 29th February, 1892.

Morning Session.

The Commission assembled at 10 a.m.

Present:—Mr. S. Wilmot, presiding; Hon. D. W. Higgins, Mr. Sheriff Armstrong, Mr. C. F. Winter, secretary.

JOHN IBBOTSON, a native of England, resident of New Westminster district for thirty-four years, describing himself as a fisherman and farmer, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, what do you wish to represent to this commission?—A. Well, what is it you want?

By Mr. Higgins:

Q. But you volunteer your evidence, do you not?—A. Well, what I think about the fishing business is this:—I started in New Westminster about twenty-seven years ago, when first I went fishing, as near as I can recollect. Four years ago about, I was working for Mr. Wadhams for wages—running camps and taking charge of Indians, and the like of that—and I was told there that I had better get a license for myself, but it was an off year like this one—we have two good years and two off years—I have never known it to fail. We may not catch the fish that run up this river always corresponding——

Q. You think a crop of eggs laid down this year will produce a crop four years hence?—A. That is my experience without fail—there was only one year there was a failure, but there is as many fish as ever there was.

Q. Yes, that is your knowledge as to these alternate run of fish?—A. Yes: well, they told me that year at the cannery that there was going to be a limit to the licenses and any one who had not a license that year would not get one.

By Mr. Wilmot:

Q. What year was that, sir?—A. It was four years ago.

Q. 1888 then?—A. I guess it would be—it was four years ago, because it was a year like this. I was told that the licenses were going to be limited and I would not get a license unless I had one, but it seemed so unreasonable to me that one should get a license and another not that I put no confidence in it. The consequence was that next year which I thought would be a good year, when I made application for two licenses—I had two since—I found that although I had been raised in the country I could not get a license.

Q. In 1889 you could get no license?—A. I could get no license.

By Mr. Higgins:

Q. Why?—A. Well he said he did'nt know me and I had not any the year before—at the same time I had a fish market in town rented from other business—Mr. Armstrong knows me very well.

Q. Well, you did not get any that year?—A. No: I didn't get any.

Q. Did you get any next year?—A. Well, I thought next year would not see people getting licenses that had no more right than I had and I thought it must be through influence and I went to a man in town here that I knew and he has some little influence and he gave me a little piece of writing.

Q. That was in 1890—who got you the license?—A. Well, I don't know whether it would be right to tell——

Q. Well, you have taken the oath and should tell all you know.—A. Well, if I must tell—it was Mr. Cunningham—I don't know what he put in the note.

By Mr. Wilmot:

Q. To whom was this note addressed to?—A. To Mr. Mowat, the Inspector of Fisheries.

Q. Did you get licenses this last year?—A. Yes.

By Mr. Higgins:

Q. One or three?—I got one—I didn't get any for the boys. The fish seem to be as plentiful now as ever before, and the way I account for it is this way: when we

came here first and started fishing, we caught as many as now—well, I think the capacity of the fishing grounds they will engage produces so many fish anyway, and if it was not, the fish produced—you could almost wander over them.

By Mr. Wilmot:

Q. Do you think it possible to reduce fish by overfishing?—A. Well, there is a remedy for that, and what I believe in is justice and equality, and I think every man who is a British subject should be able to fish—you should give every one who is a British subject a license, and then there is the close time at the end of the week, and if fish are being reduced, you could put on more time forward at night, but there is enough in the day time.

Q. Do fish run more at night or day time?—A. Well, I don't know. If you have any close time, have it in day time—let them fish at night always.

Q. Are not the most fish caught in night time?—A. Well, I don't know. We catch most of the fish at the rise of the tide—sometimes it is night, sometimes day.

Q. Then, you think every British subject should get a license?—A. Yes, I think so.

Q. What about canneries—should they get all the licenses they like?—A. Well, I don't think there is any other way but to give canneries one license, because they will get them anyway.

Q. If you gave canners 100 licenses, would they employ outside fishermen?—A. Well, they always do get them.

Q. But if canneries got 100 licenses each, would it not stop regular fishermen from selling their fish?—A. Well, I don't see any more justice in giving fishermen a monopoly over cannerymen than in giving cannerymen the monopoly over fishermen—but suppose you gave cannerymen no licenses at all—well, they would be obliged to either shut up their canneries or give fishermen just what they ask for their fish. Then, suppose canneries only have ten licenses—the fish are often so numerous they cannot get away with them, and when they have licenses of their own, they can put these boats out and take the men to work in the cannery to take care of the fish.

Q. Would ten be enough to run an establishment, with what they could get outside?—A. Yes, I think so.

Q. What about the offal?—A. Well, my opinion is that offal in water does not hurt anything, unless where it gets on the shore. The water is very cold—I have been to the bottom twice, and I know it is very cold.

Q. Did you see any offal there? (Laughter.)—A. I didn't wait to see. (Laughter.)

Q. Then, you think offal on shore is injurious—in what way?—A. Well, it becomes offensive.

Q. Do you think, if thrown in deep water, would it be carried away?—A. Oh, well, it gradually works away. So long as it is covered with water, it is all right, but, of course, on shore it gets offensive.

Q. What are the injurious effects when it gets on shore?—A. Well, I suppose its disagreeable smell—that is about all I know of.

Q. Do you think it would be injurious to health?—A. Well, I don't think it is any benefit to health—it ought to be kept off shore.

By Mr. Higgins:

Q. Do you know of any one getting ill from drinking Fraser River water?—A. Well, I have drank the water for many years—I never found any offence, but it is the way when you get a change of water. If you go to Victoria you will find the water has offence.

Q. Then a person coming from Victoria would find a change in the water—would you think it from the dead salmon in the water or otherwise?—A. Well, I have drank water from the Fraser River for many years—there is always a quantity of dead salmon in the river.

Q. Do you think salmon all die in the river?—A. No I don't—I think many get to the sea.

By Mr. Wilmot :

Q. You have been fishing about twenty-seven years?—A. Yes, off and on.

Q. And probably have been employed by canneries?—A. Yes ; by contract a good deal of the time, and a good deal of the time I have run a store here like Vienna.

Q. But as soon as you got licenses of your own, you fished all the year round?—A. Yes.

Q. Do you think, is the close season beneficial—how many days in the week?—A. Oh, twenty-four hours are plenty at the present time.

Q. What time should that be?—A. I don't fish on Sunday in day time but go out Sunday night. They have hardly anything to do in day time on Monday, and if you say, close all Sunday, some will go out Sunday night just the same.

Q. You think the Sunday close time should be made so as to not affect canneries or fishermen—why not run it all day Sunday, then?—A. Well, you asked me what time would be best for a close time, and I am telling you.

Q. And what time would be best then?—A. What I meant on Sunday night is—we go out at six o'clock in the evening and fish till Monday morning. We would go out from Saturday night until Sunday morning if the close time in day was Saturday and Sunday, twelve hours.

Q. What about the transfer of licenses? If a man had eight or ten should he be permitted to sell and not use them himself? If you got ten licenses on the understanding that you were to fish for yourself should you be able to stop at home and sell to other fishermen?—A. Why no ; I think he should use them himself, but I don't think he should get them any more than others for I think every one should get all they want.

Q. But would it be just to other fishermen if I could sell mine to others?—A. Why no ; they should not be transferable, but you should make it so there would be none to transfer—make the law so there is no need to break it.

Q. Where have you fished—at the mouth, or up river?—A. I have fished all over the river, from Ladner's up.

Q. Ever from Ladner's down—on the Sand Banks?—A. No ; I have had contracts, and men could go where they like.

Q. Do you think there cannot be too many boats fished down there?—A. You cannot keep the fish from coming in.

Q. What is the usual average of fish that you would have caught during your fishing period annually?—A. Well, in a big year about 12,000 to 14,000, and the next year 7,000 or 8,000, and the next probably 2,000 to 3,000.

Q. What might be the average size of salmon in weight—would they be 6, 7 or 8 pounds?—A. Well, I think about 7 pounds—the more numerous the salmon are the smaller they are in weight—I think about 7 pounds, and I think they won't fill more than 5 tins—about 4½ to 5 tins.

Q. Could you give us an idea as to whether there should be any discrimination in the fees charged for licenses—should all be alike?—A. Why, of course ; one man should not pay more than another.

Q. Should Fraser River men pay more than is paid on the Naas and Skeena?—A. No ; I think they should be equal ; I believe in justice and equality in everything. I don't claim because I am a fisherman that I should be allowed to fish because I have been fishing so long and raised a family in the country ; I think any man should be allowed to fish as well as me if a British subject.

Mr. Higgins.—Well, then ; you say you never fished at the mouth of the river?—A. No ; I never fished outside of the sand heads.

Q. What do you consider the mouth of the river?—A. Well, I would consider the mouth of the river below Garry Point.

Q. Would you consider the sandheads the mouth of the river?—A. Well, I would consider the mouth of the river where the water falls off.

Q. Where the sand heads disappear?—A. Yes.

Q. Would you prevent fishing on those sand heads?—A. No.

Mr. Wilmot.—And you think it does not prevent fish from coming into the river : have you never caught salmon elsewhere—in Columbia River or in Mud Bay?—A. I have caught fish in the Columbia River.

Q. But if nets are put across the mouth would fish have a chance to get up?—A. Yes, I think so; they will go under, and in all shapes; in slack water the fish run more regularly—in swift water they run straighter.

By Mr. Higgins:

Q. What are the depth of nets, then?—A. There should be no special depth; the way to regulate fishing is by close time.

Q. Then you think fishing on the sand heads would not be detrimental—it does not drive fish away from the river?—A. No; it does not drive them away; when fish are ready to come into the river they will come or else be caught: For instance, here (illustrating his meaning on the table) are the nets, one right behind the other—the man down the river will not probably get many fish, and the next one will get lots of them; they are on their way home.

Q. What do you mean by a salmon going home?—A. To the spawning beds, of course.

By Mr. Wilmot:

Q. Well, if there is a barrier across the river, can they go?—A. Well, you are worrying me. (Laughter.) Of course, if it was a natural barrier, they could not get past.

Q. But if there was a barrier across, would it not prevent them from going home?—A. Oh, well, you cannot stop them like that—many will go home.

Q. Have you ever fished with seines?—A. No, sir; I don't know anything about seines; I never fished them.

Mr. Wilmot.—Thank you, sir; that will do.

Dr. W. REINHARDT, M.D., a native of Germany, residing in British Columbia about 3 years, and living at Ladner's Landing, B.C., for about 2 years, a practising physician and surgeon, was duly sworn.

By Mr. Wilmot:

Q. Have you anything to offer with regard to the river—with regard to the pollution of it, or injury done to man or beast by the throwing of offal in the river?—A. Well, of course, I have formed an opinion about that. There has been a good many cases of typhoid fever there, and it is an important question. That is the prevalent disease there.

Q. Have you formed an opinion as to the cause of that disease?—A. Yes; but it is not offal; it is the bad drainage there; there are no drains; every farmer can make ditches and cess-pools as he likes; there is no law whatever; they can do just as they like. Now take the Slough on which all these typhoid fever cases occurred. This slough has produced no typhoid fever during the big runs. Last year there were hardly any on that slough, while we had many cases of typhoid fever. I have been living right over the slough; it runs under my house, and I ought to know something about it. There was no offal thrown in last year, and I attribute the typhoid to bad weather and drainage. You cannot produce typhoid by decomposing animal matter. You know the Frenchmen and Germans eat Limburger cheese and other decomposed matter. You cannot produce typhoid fever by simply decomposed organic matter. The simple fact of organic matter being in a state of decomposition, does not say it is poisonous.

Q. You say there is want of drainage down there?—A. Yes; and I have talked over it with the Board of Health. I have told farmers not to drink the water. Now, with the Chinamen you have no typhoid fever, because the Chinamen do not drink the water, but boil it like tea—and in the old country, in big cities, would the people think of drinking the water? No; they put in a little whiskey or something to kill these germs. I call that slough nothing more than a ditch. Last year they put a dam in the slough——

By Mr. Higgins :

Q. What is the name of the slough?—A. Cohiluthan Slough. You see all the closets run into that slough—they have no right to drink it ; they should boil it.

Q. But has everybody to boil the water before they can drink it?—A. I moved away because I could not get good water.

Q. You moved away because you thought it unhealthy?—A. Yes ; I didn't want to bring my family there ; there has been typhoid fever there for some time ; it is not properly drained ; now, for instance, they want to widen the road there ; they simply throw up a dike and that settles it ; there is no law ; they do as they like.

Q. Where do the people throw their kitchen slops?—A. Into the slough—everything goes into it.

Q. But if they want drainage at all—a man must have drainage to carry his water, etc., down into the slough?—A. Yes ; but there is nobody to look after any—there is no board of health—the farmer can drain just as little or just as much as he likes.

By Mr. Wilmot :

Q. Then you think offal has no bad effect at all?—A. Well, I don't think so—I think it will be a very unhealthy place, but not on account of the canneries.

Q. If no offal were thrown in, would it be better?—A. Well, there was very little thrown in.

Q. But, if none were thrown in, would it not be better for health—would not water in its normal or healthy state be injured by throwing offal into it?—A. Certainly ; I suppose it would be, but they have no right to drink it—whether the slough now is healthy or unhealthy—typhoid fever or not—I would not drink it.

By Mr. Armstrong :

Q. But do you think offal in previous years impregnated the slough there that fever could come after?—A. Well, you see, the germs must be formed—they are not formed except by the offspring of another egg and the germ is the origin of the being no matter how small it is.

Q. But may they not be increased by other foul matter?—A. Certainly ; but you find decomposing organic matter everywhere—in big cities you have cess-pools, closets, etc., and the germ is increased from them.

Q. But would not throwing offal in increase these germs? You say foul matter in cities has the effect of increasing germs of typhoid fever or sickness?—A. I can hardly answer the question like that. If you have a typhoid fever patient, in the wash excrement are these germs. Now, instead of destroying these germs it goes into the closet, and it goes into the soil, and as soon as it gets into the river I believe it will get destroyed.

By Mr. Wilmot :

Q. Will it get in the land?—A. That is where it most lodges.

Q. Well then, this offal lying on the soil, will it produce germs?—A. Well, everything will produce germs—it is like living on a volcano—that is why it gets away over—from the turning up of the land—now in Germany it is proved by the rise and fall of surface water—as soon as the water rises there is no danger, but as soon as it goes away, then there is danger.

Q. Then as long as offal is in water it does not produce germs?—A. No.

Q. But as soon as the water leaves, it produces them?—A. Well, yes, of course, all things like that produce them.

Q. Then you think if put in rivers it does no harm?—A. Yes.

Q. You know pretty much what that soil is composed of down there? It is sedimentary deposit, is it not?—A. Yes ; most of it is peat.

By Mr. Higgins :

Q. Have you ever lived in an ague country, doctor?—A. No ; but I have been in New York—and when practising up country I have seen this sickness come on—but they should get fresh water there.

Q. Where could they get it?—A. Well, they could get it from the timber—they are 4 miles from the timber, but instead they prefer putting in a little whiskey.

Q. Would whiskey destroy these germs?—A. Well, no; not altogether, but to a large extent—now I may say that all these persons who were typhoid fever patients were all temperance people—I don't mean to say that whiskey did all the good in the cases of others who drank it, and did not have typhoid fever, but I would prefer taking bad whiskey to bad water.

LOUIS MACAVERI, a native of Italy, in British Columbia for eight years, a fisherman, and resident of New Westminster, was duly sworn.

(Being unable to speak English plainly his statements and the questions put to him were interpreted by John Stevens.)

By Mr. Wilmot:

Q. Well, what do you want to say?—A. He says he has been here for eight years and has applied for licenses these last four years and gave $20 to Mr. Mowat's brother last year, and Mr. Mowat told him if any license was issued for him he would have it—he waited some time and then got his $20 back.

Q. Is he a British subject?—A. Yes: here are his papers, (handing in certificate of naturalization).

Q. You have no other complaint except that you could not get a license when you applied for it?—A. He says that in his opinion he should have a license the same as any other persons who are British subjects—he has been here in New Westminster eight years and he has done nothing else but fishing.

Q. Has any one else got licenses since he put in his application?—A. Yes: two or three after he paid his $20—one an Austrian and one a Spaniard.

Q. Were they British subjects?—A. Yes: they were naturalized two years ago—he says that he had to give his fish for 4 bits (50 cents) apiece while the rest had $1 and $1.25—he had no license but had a net, and consequently he had to take what was offered.

By Mr. Wilmot:

Q. How could one get $1.25 and the other 50 cents?—A. Because he had to sell his fish to Mr. Port and Mr. Port had given him a license.

Q. Then if he had a boat of his own he would be able to deal with Mr. Port direct?—A. Well, that is what he thinks if he had a license.

Q. A boat was furnished by Mr. Port?—A. No, he owned a boat and net, but did not own a license.

Q. Well, I do not see how he was refused if he had a boat and net———?

By Mr. Higgins:

Q. Well, he had no license—he could not have fished at all?—A. I know a case where Mr. Low was fishing and he got one pass only out of six.

Q. Then what he claims is that being a British subject and fisherman, he should get a license like any other man and he only wants but one?—A. Yes: one license and one boat.

Q. What number of fish may he have caught, of the sockeye family, when fishing for Mr. Port?—A. He says he didn't fish sockeyes for Mr. Port.

Q. Well, for anybody?—A. He says he took 1,000 fish for Mr. Ladner.

Q. Did he fish all the while?—A. No, about two weeks.

Q. And what did he get for the sockeye from Mr. Ladner?—A. Twelve and a half cents.

Q. Divided between himself and partner?—A. Yes.

Mr. Wilmot.—Very well, that will do—we understand his grievance—we are obliged to you for interpreting for us.

On the question of adjourning to Victoria, raised by Hon. Mr. Higgins, it was unanimously resolved that the Commission would be kept open in Westminster till 12 o'clock noon, if evidence is forthcoming, and if not, that an earlier adjournment would be made to Victoria to meet there, at 10 a.m. on the day following departure from Westminster, and that Mr. Higgins be authorized to obtain a suitable room for holding the meetings of the Commission.

Dr. J. R. WILSON, M.D., of Ladner's Landing, a native of Canada, and living in British Columbia between 6 and 7 months, a practising physician and surgeon, was duly sworn.

By Mr. Wilmot:

Q. I presume the sole object in having Dr. Wilson brought here is in regard to this offal question. Now, from your knowledge of matters at Delta can you give any light upon the good effects or evil effects of the lodgment of offal along the shore?—A. Offal thrown into the middle of the river with the current running at four or five miles an hour may not be injurious to the health of people living along the shores, but I think if it is thrown or lodges along the shores or is driven in the sloughs, I think it would be injurous to health.

Q. Have you any evidence as to injurious effects upon the health of people?—A. Well, about 75 per cent of the cases I was called upon to treat were typhoid fever and with persons residing along the slough. I don't mean to say that decomposing fish is the cause of the fever unless parties were predisposed by using the water.

Q. What was the nature of the diseases you attended?—A. Fevers and diarrhoea—by the action of the water on the intestine canals it left a suitable soil for the germs to act upon, *i.e.* germs producing typhoid fever.

Q. Have the cases been numerous during your experience?—A. Yes, I never had so many during my practice of seven years as I have had in the months of September and October when the fishing season was over last year.

Q. Is it more apparent then than in earlier spring?—A. Well, I was not there until last August—that is the time though for typhoid fever, in the autumn the microbes are greater then.

Q. Are any special reasons assigned by the medical fraternity why the autumn months produce fever?—A. Yes, after the hot dry summers and springs running dry, there is so much ground exposed to the sun, the evaporation, etc., is more likely to produce this effect.

Q. Will soil absorb injurious matter so that it is thrown off when the water recedes?—A. Yes, absorption of decomposing vegetable matter along the shores is the theory.

Q. What about animal matter?—A. Well, I cannot say—as well as decomposing vegetable matter—there is said to be some of it.

Q. But the animal matter, if added to it, would it be worse?—A. It might.

Q. Were the cases malignant?—A. The most malignant cases I have ever been sent up to treat were there.

Q. Is typhoid contagious?—A. Indirectly; the poison must go through a change before it enters the system—the germ that produces disease undergoes a change before it is fit to set up another disease.

Q. Are germs produced from decaying vegetable and animal matter?—A. The germs grow and multiply in vegetable matter.

Q. Is the origin of the germ known?—A. It feeds upon the vegetable matter—we don't know the beginning—these germs exist, and if they have anything to feed upon they multiply and increase.

Q. Are you of the belief or opinion that the deposition of quantities of offal in the river and its floating back upon the shores of the river are injurious to human health?—A. I am.

Q. And do you attribute in a degree—let it be large or small—that the seventy-five per cent of cases you have treated would have for their origin more or less of the

effects from this offal or not?—A. I am not prepared to say that—all I am prepared to say is that I believe it injurious to human health, and that it may have something to do with these cases.

Q. Have you any knowledge of its effects upon the brute creation—cows, &c.?—A. Well, that it would be injurious—it would be injurious through the milk—milk is a conductor of disease.

Q. And the more healthy the fluid the cows may drink, the milk would be the more healthy?—A. Yes.

Q. Have you any knowledge of its effects upon the flesh of animals—pigs being unfit for food, &c.?—A. I cannot say—I have heard it was, but I don't know of my own knowledge.

By Mr. Higgins:

Q. Doctor, is there only one slough in the vicinity of Ladner's Landing?—A. There are a number.

Q. But the one slough?—A. Well, that is the one which I think affects the health.

Q. But is it any different to the others?—A. Well, there is a cannery situated at the mouth of the slough.

Q. Are there any at the others?—A. No.

Q. Are you aware of any trench or system of dykes in the vicinity?—A. Yes.

Q. Are they stagnant or not?—A. Well, I think some of them are stagnant.

Q. Where are the closets drained to?—A. Into the ground.

Q. Would the land be over-flowed unless it was for the dykes—have you ever seen the land over-flowed?—A. Well, no, not since I have been there—I have seen a little of it over-flowed by the dam at the slough.

Q. Have you ever lived in a fever and ague country?—A. No.

Q. Do you think cattle that drink from this slough alone are affected?—A. Oh, well, I cannot say if only these are affected. I only say the milk would be affected if they drank of the water.

Q. Are you aware that dead fish come down the river in numbers?—A. Well, I know there are numbers in this slough.

Q. And would the effect from them be just as bad as from offal?—A. Yes; just as bad.

Q. And do you attribute to the fact that there is a cannery at the mouth of the slough, that there is typhoid fever there?—A. No, not necessarily—I think, though, it is because of offal being washed up.

Q. And do you say that good would be got if the cannery was not there?—A. No, the sanitary condition of the place is not good.

Q. Is there any board of health—any sanitary officer—any one to report to the Government that typhoid fever exists there?—A. Not any one that I know of—there are two police there whose duty they say it is, but I don't know.

Q. What is the condition of the bottom of the slough when the tide is out there?—A. I don't know—there is nothing particular.

Q. Does it look slimy?—A. Yes. I have seen dead fish also there.

Q. They would render the land around more slimy, would they not?

By Mr. Wilmot:

Q. Well, I was just going to ask the doctor were those fish whole fish or did they look decayed?—A. Some were whole fish, some were not.

By Mr. Higgins:

Q. But what I want to get at is this: If dead fish are brought down by the current and deposited there, they would have just as bad an effect as offal?—A. Just as bad.

By Mr. Wilmot:

Q. All decomposing matter would be just as bad?—A. Just as bad.

By Mr. Higgins:

Q. If offal were thrown out in the current, do you think it would be washed out to sea?—A. Well, I cannot say—it might be brought back into the sloughs.

Q. There is a current of four miles there?—A. Still, I think in fishing time they say the influence of the back tide is not much felt.

Q. Then, if the tide is running at six miles, they would have six hours to take offal out?—A. Yes.

Q. Are you aware of lots of offal lying around the shores of the slough?—A. No, I have not seen it.

Q. You have seen dead fish?—A. Yes; sometimes too I have seen the offal.

By Mr. Wilmot:

Q. What is the population of your village?—A. Three hundred or four hundred or so.

Q. Do you ever find that, as a rule, medical men recommend sanitary matters or measures in a small village like that?—A. No, I don't think they do.

Q. Was illness produced in the village or along the shore out among the farmers?—A. It was along this slough among the farmers.

Q. Are they fairly cleanly, industrious people, along that slough?—A. They are.

Q. Would you attribute any amount of uncleanliness on their part to induce this typhoid?—A. No, they are not so uncleanly as to produce this.

Mr. Higgins.—Well, I don't think the doctor understands that question. He has already said that all kitchen slops and deposits from closets go into the slough.

By Mr. Wilmot:

Q. But those conditions apply everywhere in the world—they are generally deposited just on the ground. Are the conditions there so adapted more than other places for the extension of the disease?—A. No, most of my patients were at the head of the slough.

By Mr. Higgins:

Q. But any place where the tides sweep back and raises the deposit from the bottom up, I think, would be fine conditions for typhoid. Do you ever drink that water at all?—A. No.

Q. What do people drink down there?—A. They catch rain water and mix it, generally.

By Mr. Wilmot:

Q. If any dead fish or offal were not carried into that slough, would the water be palatable—drinkable?—A. No, I think not.

Q. From what cause?—A. From water closets along the shore.

Q. What inhabitants are there along the slough?—A. Twelve.

Q. And the deposits from these twelve persons would therefore pollute the slough?—A. No; they are mostly living back from it.

Q. Some medical men have told us the deposits from these kind of things would purify the waters of the slough; do you agree with that idea?—A. No, sir, I do not.

Mr. Wilmot.—It might not be amiss for me to read a few extracts from a report of the Ontario Agricultural Department, and see if you agree with them.

(Mr. Wilmot then proceeded to read from an article in the Victoria "Colonist" of 20th February, 1892, and in which the following conclusions were made:—)

1. It will utilize a bye product that otherwise is a total loss.
2. It will prevent the waters from becoming contaminated.
3. Its proper management must tend towards a more healthful surrounding.
4. Its return to the soils of the farm will partly offset the waste of our cities by sewage carried to the lakes and rivers.
5. If properly handled it will pay well.

Q. Do you agree with those sentiments?—A. I do; I cannot say as to the expense of manufacture.

Q. No; but as regards the health?—A. Yes; I quite agree.

Q. Do you know of Professor James?—A. No, I don't know him.

Q. I may mention that you will find this in the "Colonist" of a few days ago, where the whole matter is laid down, and these are the conclusions that are come to.

Mr. T. Ladner (speaking from the audience).—Will you excuse me for a moment. As a person who is deeply interested in land at Ladner's Landing, I would like to suggest a question to be asked Dr. Wilson.

Mr. Wilmot.—Mr. Ladner, we have extended to you more than to any person opportunities to make statements.

Mr. Ladner.—I have heard several doctors make statements here; now I would like to say that there is a saw mill from which——

Mr. Wilmot.—Then you wish me to ask the Doctor if mill refuse will not affect the public health?—A. Yes; it will aid towards it.

Q. And the combination of sawdust, offal, and other matter would produce greater effects than any one of them alone?—A. Yes.

Mr. Wilmot.—Very well, Doctor, that will do.

Dr. Wilson asked if his expenses would be allowed him, and was informed by the Chair that if he would submit his account for the same it would be forwarded to the department for consideration.

Mr. McTIERNAN, Indian Agent, who had previously given testimony, again presented himself.

Mr. McTiernan.—Mr. Wilmot has made a statement which I wish to contradict, in that he said that the Indians only come here and stay a little while and then go away again.

Mr. Wilmot.—Mr. Wilmot made no such statement—it was simply given in as evidence—I did not say it at all—some one else did. If you want proof, I have no objection in saying that I think Indians should have licenses as well as other men.

Mr. McTiernan.—Thank you, sir.

Mr. ALEX. EWEN, who had previously given evidence, asked permission to say a few words as to the pollution of the waters, and was again sworn.

Mr. Ewen.—We are all aware that during a freshet the river is very muddy—vegetable matter, &c., coming down, and we have a flat bank or beach, that is a ledge of banks, and about eighteen or twenty years ago it was very offensive here in New Westminster. Mr. Armstrong and a great many people know it just as well as I do. About the 1st of July the water begins to recede again, and leaves about a foot or eighteen inches of this deposit lying upon the bank—with a cane you will go down a foot or eighteen inches—that raises a very offensive smell when you are going through it, and turns up a very black offensive matter, and some days you will feel effects of it very bad, and in the early days when the effects were felt more than now, there were a good many hogs lying around, and it was good ground for them to work upon, and when they came down they raised a great stench. Late in the fall this all washed away, and in a few days the banks became firm again. You have a great deal of this along the Fraser River. It is a great deal worse, more hurtful to the stomach rather than the stench from the sawdust. Every person who has been living here upon the banks knows it, and it has been for every one to see, and it would be a good thing if the fishery inspector would take notice of it and see if it is not one of the causes that makes health bad upon the river, and you might get evidence to confirm that: and I have no hesitation in saying that it must have come under the observation of Mr. Armstrong.

Mr. Wilmot.—I may state, Mr. Ewen, that when sawdust is in a decaying condition, it is a very disagreeable substance and throws off a most offensive smell, and the Dominion Government is endeavouring to prevent its deposit in the water. At Ottawa we have a lot of it, and I know it is considered very offensive. However, about the river here, you say it deposits black sedimentary matter?

Mr. Ewen.—Yes ; it leaves a black matter and when disturbed it raises a very offensive smell, and directly after the lodgment of this matter the Oolachans come up the river, and many come upon the beach, and when hogs used to root there, it was for the Oolachans they were after.

Mr. Wilmot.—After this black matter becomes decayed and throws off an offensive smell and aids sickness—now could it not be increased by the deposit of a great quantity of offal ?

Mr. Ewen.—Yes ; but there is no fishing when this is gathered. Of course it would increase it—" every little makes a muckle " (laughter)—and everything added to the deposits will make matters worse.

The Commission adjourned at 12.10 p.m., to meet again at the same place at 2 p.m.

New Westminster, B.C., Tuesday, 29th February, 1892.

Afternoon Session.

The Commission reassembled at 2 p.m., in the Court-house.

Present :—Mr. Chairman Wilmot, Mr. Sheriff Armstrong and Mr. Secretary Winter.

No evidence being forthcoming the Chairman declared the Commission adjourned till 4 p.m.

The Commission reassembled at 4 p.m.

Present :—Mr. Chairman Wilmot, Mr. Sheriff Armstrong and Mr. Secretary Winter.

No evidence being forthcoming the Chairman declared the Commission adjourned until 10 a.m., 1st March, at the same place of meeting.

New Westminster, B.C., Wednesday, 1st March, 1892.

Morning Session.

The Commission assembled at the Court House at 10 a.m.

Present :—Mr. Chairman Wilmot, Mr. Sheriff Armstrong, and Mr. Secretary Winter.

In the absence of witnesses ready to proceed the Chairman at 10.15 declared the Commission adjourned until 11.15 a.m.

At 11.25 a.m., the Commission was called to order by Mr. Chairman Wilmot and proceeded to hear evidence as follows :—

Mr. HENRY D. BENSON, a native of St. John, N.B.. but a resident of British Columbia for the past twenty-one years, now living at Ladner's Landing, and representing himself as engaged in lumbering and farming, was duly sworn :—

Mr. Benson.—We had a meeting at Ladner's Landing on Saturday afternoon, in regard to fish offal as it affects the Delta people, and I was chairman of the meeting and have been delegated to hand in this petition to your Commission.

By Mr. Wilmot :

Q. Are you Reeve of the municipality ?—A. I am Reeve of the municipality and was chairman of the meeting, and I am here to hand in to you the petition *re* offal and the minutes of the meeting.

The Chairman took the proferred papers and read from them aloud as follows :—

Ladner's Landing, B.C., 27th February, 1892.

A meeting was held in the Delta Town Hall, to discuss and protest against the action of the canners in casting fish offal into the Fraser River.

Chairman H. D. Benson, reeve of Delta municipality, opened the meeting by saying that fish offal was a great nuisance and hurtful to the bulk of residents of the municipality and that action should be taken to send a petition to the Fish Commission now sitting in New Westminster.

Mr. W. H. Ladner then arose and said that fish offal was a nuisance in the river. but thought it would make very good manure. Messrs. W. Arthur, E. S. Brown, Hy. Trim, and several others gave evidence that fish offal had to their certain knowledge caused many cases of sickness and a number of deaths. Mr. John Kirkland said that filth of any kind is detestable, and Mr. Glassford thought it advisable for the Delta Council to appoint a board of health. The chairman asked Dr. Wilson to state his opinion, but Dr. Wilson thought it unnecessary as he was to give his opinion before the Commission in New Westminster.

After a lengthy debate whether it would not be advisable to protest also against the sewage of the city of New Westminster from draining into the river, it was decided that the fish offal only should be protested against. Messrs. H. D. Benson, John Kirkland and W. H. Ladner, were appointed delegates to wait on the Fish Commission in New Westminster with the petition from the people.

After a vote of thanks to the chairman and secretary the meeting came to a close.

PETITION.

To the Fishery Commission now in session in New Westminster:

Gentlemen,—We, the undersigned residents of Ladner's Landing and vicinity, do hereby vigorously protest against the action of the canners in casting the fish offal into the river and vitiating the water which we drink, and not only is the water rendered impure, but the tide casts the offal on the low-lying lands along the sloughs, which decaying causes a most disgusting odour, making our locality unhealthy and undesirable to live in, and depreciating the value of our property. (Except what rain-water is caught in cisterns, the Fraser River water is the only water which we have to drink.)

(Signed.)

H. L. Benson,
J. F. Waddell,
C. S. Ferguson,
Charles R. Lord,
Thos. Thirkhill,
G. A. Watson,
S. B. Burr,
John Kirkland,
Harry Trim,
Wm. Arthur,
Wm. H. Ladner,
Wm. Alexander,
A. E. Torres,
W. J. Leary,
E. Hutcheson,
H. S. Browne,
Stainton & Shay,
Frank McCullough,
D. M. Miller,
D. B. Grant,
J. McLearn,
R. P. Alexander,
Rev. T. S. Glassford,
W. T. Arthur,
A. Pormiter,
F. Pormiter,
S. T. Elliott,
John Gilchrist,
W. H. Burr, Jr.,
Wm. Anderson,
E. S. Browne,
John Simson,
H. C. Rayson,
Joseph Jordan,
Alex. Gilchrist,
W. J. Watson,
R. Watson,
Josiah Bath,
W. A. McCallum,
Alex. E. Connolly,
A. Casulich,
W. McIntyre,

F. Kirkland,	Thos. Adsett,
John Perram,	Geo. Dennis,
H. Hicks,	Baker Westemark,
W. B. Parry,	H. E, Falconer,
E. Goudy,	D. Gilchrist,
A. R. Leary,	G. Adams,
T. Curtis,	W. Wright,
E. D. Oaklyn,	F. F. Raith.

Ladner's Landing, 27th February, 1892.

Mr. Wilmot.—This gentlemen, you desire to put before the Commission, and which will be filed with the papers of the Commission—it will be necessary to call upon some of the delegates for evidence?—A. You will see that Mr. Kirkland and Mr. Ladner are delegates with me.

Q. Yes; I think then, Mr. Benson, we will take the ordinary course with you and before asking questions will swear you as other witnesses.

The usual oath was then administered to Mr. Benson.

The Chairman (continuing)—Would you like to make any voluntary statement of your own in regard to this matter?—A. Yes; I would like to make a little statement in regard to the location, &c., and people in the Delta.

Mr. Wilmot.—Very well, afterwards we may ask some questions?—A. I may state in the first place that at the Delta there are two sloughs running into the Delta—the Crescent and the Cohiluthan slough. The Crescent is some three or four miles, but it is dammed in and is open for some three or four miles. At Ladner's, Cohiluthan Slough enters and is somewhere in the neighbourhood of two miles in length.

Q. These two sloughs—one is above and the other below Delta?—A. Oh, both are in the Delta District—one above and one below—the people living along the banks use water from both. In these two sloughs the tide rises and falls and at Ladner's the water is very shallow, and in fact for quite a piece below. There is only a small channel about 100 yards wide or so at low water. There is a bar in the river and all the way up from Ladner's it is shallow water and in these sloughs the tide runs up. There is a cannery just at Cohiluthan Slough—they carry offal in in summer time and it lodges on the shores and gives off a frightful stench and which is considered a bad thing. It was always considered so in New Brunswick, and below Cohiluthan Slough the tide brings a lot of offal in and it lodges there, and in Canoe Pass there are many small sloughs.

Q. May I ask is this an island between Canoe Pass and Ladner's Landing? (scanning map)—A. No; that is the mainland—the slough is dammed now at Mr. Arthur's—when I first went there the water at times went through, and it is open at both ends—both at the east side and at the Fraser River side. As I said before, the current sets close to the bank from Ladner's down to Canoe Pass and the prevailing wind is from New Westminster in summer season, which sets drift of any kind towards the shore and a great deal of offal lodges there, and when you get to Canoe Pass—that is a shallow passage anyway—there is always water in it, but at places it is very shallow, and there are small sloughs or rough places where the offal lodges—for instance at Mr. H. Trim's—Mr. Trim said on Saturday there was a slough there which caused a great deal of this offal to lodge and which caused much sickness—there had been two cases of typhoid fever and two deaths in his family and he laid it to the offal. There are two canneries close to his place.

Q. Would Mr. Trim live about midway to Canoe Pass?—A. Near the shore—yes about midway. Now, as I said before the people all along the river have to use the river water and the offal makes it very unwholesome and unfit for use—it tastes very disagreeable.

Q. Are there no other means of getting water?—A. No; they use rain water at this season, but in summer season they are obliged to go to the river for water. Some miles back there is water, and they are now trying for artesian water.

Q. Then, this trying for water is caused by the river water being impure?—A. Well, I may say I have been on the river many years, and if there had been any sick-

ness formerly, I would have known of it; but the sickness was some distance away, and on the whole shore I have never known of any cases of fever in other parts of the municipality.

Q. And the sickness is wholly on the shores of Westham Island, and along Cohilu-than Slough and by the Canoe Pass and portions of land adjoining the Fraser River?—A. Yes, sir. I suppose you are aware there are quite a large number of people there—the village of Ladner's Landing—and all are depending upon the water of the river.

Q. What is the population of the village of Ladner's Landing? About 200, I think we have heard?—A. Yes, about that.

Q. How is the village laid off?—A. In town lots; the farmers live very close to the slough. Formerly there were no roads—all boating—and they live on both sides of the slough.

Q. And along the shores of the Fraser River and on both sides of Canoe Pass?—A. Yes, along Canoe Pass.

Q. Is the land level there?—A. Yes, pretty level—it is what we call marsh land in New Brunswick.

Q. Are there many persons living along Crescent Slough?—A. Yes; it is well settled up all along there—good farms.

Q. Within the territory formed by Crescent Slough it is a sort of island that is there formed, is it not?—A. Yes, all along there.

Q. And how many years have you lived there, Mr. Benson?—A. Seventeen years—most of the time.

Q. And the locality where you live has not been troubled with fever—typhoid?—A. No, all the eastern end of the municipality has been as healthy as any other part of British Columbia, but in places where offal lodges along the shores, sickness has prevailed.

Q. Is this sickness of many year's standing, or is it of recent growth?—A. Well, it seems to be getting worse lately—the last year was the worst we have ever had.

Q. Is this all the time or in the spring, or when the fishing is over?—A. The sickness generally commences in August.

Q. That would be the time when offal would be lodging largely?—A. Yes, about that time.

Q. Well, offal that lodged the year previous—would it be wholly gone before the following year—that is, fish heads, tails, &c.,—would they remain?—A. Oh, no; most would wash away, and then there is a sedimentary matter that covers this offal up—it settles largely into the land.

Q. And are you quite satisfied in your mind, so far as your knowledge goes, that the sickness which prevails there so largely is attributable to offal making a lodgment there?—A. Yes, I think so. I may say I have seen reports here that some men have called your attention to salmon that have died in the Fraser River after spawning, and have tried to make out that is worse than or as bad as the offal. Now, there is no fisherman on the Fraser River who has been up and down the river more than I have, and before the canneries were established I have been up and down the river very often. I was in the lumbering business before, and in the summer of 1883 furnished all the lumber for the bridges for the Canadian Pacific Railway, and was up the mountains and on the Harrison River, and on the spawning beds a good deal, and was also on the Columbia River years ago. Now, I don't think there are many salmon die in the river nor on the spawning beds. I don't think there is much difference between the flesh of the salmon on the Atlantic coasts and here. I think the salmon's nature is to return to the sea, but in British Columbia the rivers are so rugged and rough, you see fish with pieces knocked out of them and in all manners of shapes, wounded, etc., and what fish get into the Fraser River and die before they get to the spawning grounds are very few.

By Mr. Armstrong:

Q. Are there not extensive spawning beds on the Fraser River?—A. Yes; but I don't suppose the fish that die at Fort George have anything to do with the water in the Fraser River. The fish that die in the Canyon, etc., may, but if any man will go up and watch them there is a great deal of difference. Now, in Silver Creek, that is

comparatively speaking, for the first mile or two it does not run very fast, and there are some bars, &c., and it is a great place for salmon to spawn, and there are not near as many salmon die there as in other parts. You take the salmon where there are many rocks and boulders—they seem to have hard work to get up, and they wear themselves out and many die there in trying to get up.

By Mr. Wilmot:

Q. You think the habit of salmon is very similar to salmon in New Brunswick—you think each river will have its own family of salmon?—A. Yes; each stream has its own salmon—the Fraser has its own kind, but also every stream that enters into the Fraser will also have its own fish.

Q. You are acquainted with the St. John River?—the same thing takes place there?—A. Yes; the same thing takes place there.

Q. And the fish that go up farthest will become more protracted and exhausted?—A. Yes; and in those places that are more rocky and have more boulders, &c.

Q. And you think a greater amount of deaths will occur there and you think the greater prostration, etc., causes their death?—A. That is my opinion.

Q. And you are acquainted with the fact that the same thing occurs in the east?—A. Well, the rivers in the east cannot compare with these here in impediments for the salmon to get up.

Q. Then if there are a great many coming up do you think that more would die?—A. Oh, yes; certainly.

Q. And the few comparatively coming up in the eastern rivers makes it appear as if few die whereas here on account of the immense numbers passing up the river it would seem that a correspondingly large number died?—A. Yes.

Q. And you think the fish that die do not affect the water as much as offal?—A. Oh, no; the dead fish do not affect it as much.

Q. Have you seen many dead fish in this Cohiluthan Slough?—A. No; I have seen very few—they appear to have died in the Fraser River.

Q. They appear in better form than if they had died from rough usage?—A. Yes.

Q. How do you account for that—were they thrown away?—A. Well, I don't know—many have been thrown away in former years, but I don't think a great many are now.

Q. But these fish—you could tell by their appearance—would you think they were thrown away from the canneries or by fishermen?—A. Yes.

Q. You have been here many years and know the inhabitants—did the inhabitants before the cannery business being carried on drink water from the river?—A. Yes.

Q. And were there any unhealthy effects?—A. No.

Q. And you think the offal has caused it now?—A. Yes; and there are certain things that convince me in my opinion. Now Cohiluthan Slough is not as long as Crescent Slough and there has been three times the sickness there as on Crescent Slough, but there is a cannery right at the mouth of Cohiluthan Slough.

Q. Whose cannery is that?—A. The Delta cannery. Now there has been more sickness on that slough and around that slough than at any neighbourhood—there, and at Canoe Pass.

Q. And you attribute it to what cause?—A. To the offal from that cannery—if the sickness was general it would be different, but it is not. As I told you, over towards the bay and all the east end of the municipality has been as healthy as anywhere else.

Q. And you think the tide carries offal up the slough and it rests there and contaminates water in the neighbourhood—that is your opinion?—A. Yes.

Q. Now, since you have given information about the unhealthiness of offal and heads of fish, might I ask you this: You are acquainted thoroughly with the fish they call here the spring salmon or "quinnat"?—A. Yes, sir.

Q. You have caught and seen great numbers of them?—A. Yes, sir.

Q. Have you studied their habits, etc.?—A. To a certain degree; I have noticed them in the spawning beds and outside.

Q. Have you done the same thing on the St. John River?—A. Yes, sir.

Q. What do you think of the great similarity in the shape and size? For instance, there is in the St. John River a salmon caught very much like them, and in the Shubenacadie River in Nova Scotia I have caught salmon very like sockeye, and then again on the Restigouche there is a larger salmon. Do you know the Restigouche salmon very well?—A. Not very well; I have seen many of them. I think there is not much difference in salmon in the east and here as some people think.

Q. Are you aware that even on the Atlantic coast the fish are a little different in colour and shape according to the river where they go?—A. Yes; the same thing is here.

Q. And you think Shubenacadie salmon very like sockeye?—A. It is very like sockeye.

Q. And the meat, is it the same?—A. Yes; I ate some three or four years ago, and I thought it much the same.

Q. What do you think about the humpback salmon, sir?—A. Well, they are different fish from others, yet of the salmon family. They are decidedly different, and an inferior fish. I have always thought, though, they were made for the Indian (laughter.)

Q. A very wise provision of nature I must say, if sockeyes are for canners and humpbacks for Indians. What do you think of cohoes?—A. Oh, the cohoes are very good salmon.

Q. And you are satisfied that a fair proportion of the salmon that go up to breed return to sea again?—A. Yes.

Q. An impression seems to prevail here, and has been handed down, that the salmon all die, but from the evidence we have received I think that idea has been disabused?—A. A great many of course die, but not all.

Q. Have you noted the spring salmon at the time of spawning?—A. Many of them—yes.

Q. Does the male have that peculiar hook on the jaw like Atlantic salmon? I am asking this for information, and because so many people contend they are quite different?—A. I think they have, but I have not handled any only to see. You see it is 26 years since I caught salmon in the St. John River.

Q. Yes; well, it is a well known fact that all male salmon have a projection on the jaw, and I have asked you so as to show that if so the fish here are virtually the same but changed by climatic effects. Have you any suggestions you would like to make to avert these effects you complain of?—A. Well, I don't know, except it (the offal) was made into oil or manure.

Q. And has anything in that direction been carried out in your neighbourhood?—A. There is a small factory started down near us, but I never went over to see it.

Q. Have the products been used from it?—A. Well, I don't know much about it.

Q. There is a good deal of oil used in the lumbering business; have you ever used the oil in skidding, &c.?—A. When I was lumbering there was none of this fish oil used; we used dog-fish oil.

Q Is there much used in this country?—A. Yes.

Q. What is the usual price of the dog-fish oil that you use?—A. I used to pay about 35 cents for it.

Q. Do you know enough about dog-fish oil and oil made from offal, to say if it is as good?—A. I think the salmon oil ought to be as good, but I have never used it.

Q. About the fertilizer—have you used it?—A. I have not used it, but fish manure of any kind is very strong and ought to be good.

Q. Do you know anything of its value here?—A. No; I don't know.

Q. If a large factory were put up, do you think the products could be utilized?—A. Well, it would not perhaps at first, but I think it could be done when introduced.

Q. What say you in regard to the close season for fishing on the Fraser River? Men like you are supposed to speak pretty well the tone of those under you?—A. I think there should be a close season.

Q. And the Sunday—do you think it should be kept?—A. Yes, I think so—I think the whole of Sunday should be kept.

Q. For the reasons that it would not only have a moral tendency towards the people over whom you rule, but also would allow the fish to get up the river?—A. Yes, sir.

Q. Have you ever taken notice of the hatchery and its effects on this river?—A. Not since it has been established. I have not been much on the river—I have been more around home and cannot give an opinion.

Q. Now, as an old resident, what are your views as to giving licenses on this river? Should they be given to every British subject and resident fishermen?—A. I think so, and for this reason—it has been very hard to regulate licenses on this river. A man may come here from Nova Scotia or Newfoundland with his family to start fishing and then be unable to procure a license. They should get licenses, and I think if every British subject got a license, it would regulate itself.

Q. If he got a license, should he be allowed to transfer it?—A. I think he should be the real owner, and I do not think it right to transfer licenses.

Q. Could you give us an opinion as to the average size of sockeye?—A. I think, about six pounds.

Q. Do they vary in size—some years over others?—A. Yes, sir.

Q. And would that be the average size of weight, then?—A. I suppose it would be about the average size.

Q. Are you prepared to give an opinion as to whether canneries should get all the licenses they want to fish. Suppose a cannery wanted a hundred should they get them?—A. I don't think it.

Q. What are your views as to how to equalize this between canneries and fishermen?—A. I think ten licenses would fairly equalize matters.

Q. Do you mean by that, if a canner got ten licenses he could always do a fair business with his own boats and could rely upon fishermen for the rest?—A. Yes, I think so.

Q. Do you think the number of canneries should be established on a fixed number, or should any man get licenses therefor that wished it?—A. I think any man who wished to put up a cannery should have the privilege of doing so, and he should at least get ten licenses—they should, however, run the canneries put up and not put them up to get licenses.

Q. *Bona fide* for carrying on work?—A. Yes, an actual place of business for carrying on the work intended.

By Mr. Armstrong:

Q. Have you any rivers in the east, inhabited by salmon, that have a number of streams and lakes emptying into them, which would form the spawning grounds for salmon anything in like proportion to what the Fraser River has?—A. No, sir; for instance, the St. John River is perhaps the greatest river we have. There are many lakes, but the fish cannot get beyond the falls. The Fraser River has the greatest facilities of any river I know of, even greater than the Columbia River.

By Mr. Wilmot:

Q. Have you any records of what took place on the St. John River 100 years ago?—A. Only what my folks have told me.

Q. What is it?—A. That salmon were very plentiful years ago.

Q. Have you not heard that the salmon were so thick 100 years ago that you could not cross the stream on account of it?—A. I have been told they were extremely numerous and plentiful.

Mr. Armstrong.—Are there any salmon in the St. Lawrence?

Mr. Wilmot.—I may say that some years ago the whole of the St. Lawrence and Lake Ontario were teeming with salmon. In my lifetime, sir, I have known the salmon so plentiful in the streams running into Lake Ontario, that on my own farm near Newcastle, Ont., I have known the pigs to go down to the stream and catch them and eat them, they were so plentiful.

Mr. Armstrong. Yes; well, I have heard from a friend of mine that in the place where he came from the hogs used to go down and catch the fish without wetting their eyebrows. (Laughter.)

Mr. Wilmot.—You think that a fish story, eh? Oh, yes; we had plenty of salmon, but there are none there now.

By Mr. Wilmot:

Q. Well, Mr. Benson, I think we have gone over the ground pretty well with you. Is there anything further you would wish to state?—A. No, nothing further. I have told you, I think, all I wish to say.

It being 12.30 p.m. o'clock, the Chairman declared the Commission adjourned, to meet again at the same place at 1.30 p.m.

New Westminster, B.C., 1st March, 1882.

Afternoon Session.

The Commission was convened at the Court-house at 1.30 p.m.

Present:—Mr. Chairman Wilmot, Mr. Sheriff Armstrong, and Mr. Secretary Winter.

JOHN KIRKLAND, of Ladner's Landing, a native of England, living in British Columbia for some 20 years, having moved there from Ontario, a farmer, and one of the Delegates to the Commission from the Municipality of Delta, was duly sworn

By Mr. Wilmot:

Q. Well, sir; anything you would like to communicate to the Commission we will be very glad to hear.—A. As to my knowledge of fish I might tell you something, but I wish to speak in regard to what I have seen as a resident at Cohiluthan Slough and the Delta. Ever since the canneries have been established on the river, we who reside on the Slough have been put to very great inconvenience by the offal which with the tide ebbs and flows up the slough. The water from the slough we have had to use for culinary purposes, and I have frequently in going to the slough for water have had to stir the water for some little distance to get away the oily substances and it was sometimes impossible to dip up water without getting some entrails of fish. I may say prior to the establishment of canneries we were free from typhoid entirely as far as my memory serves. It was not long after the establishment of the canneries before the typhoid came amongst us. One of my own family was amongst them—he didn't die but was taken down with typhoid. Last year though has been the worst we have experienced and during '91 some deaths have occurred there. The water in flowing up the slough flows up for about one and a half miles and then the flood-gate prevents it from going any further and it recedes more slowly from the upper end than from the lower end and often the whole bodies of the fish and entrails will be caught on brush at the sides of the slough and be retained there and create a bad stench.

Q. Offensive to the smell as well?—A. Oh yes; offensive to the smell and injurious to the general health of people living there.

Q. And that appears to be the unanimous opinion there?—A. Yes, the unanimous opinion—our petition would indicate that. It is the general opinion of parties living along there that it is detrimental to the general health.

Q. You are not living there now?—A. No, not exactly, but I am there all along—my family is in Victoria.

Q. And was it on account of this illness you moved your family away?—A. Oh, no; my wife's illness was such I was obliged to take her away for the benefit of her health.

Q. Were there any cases of other diseases, dysentery, &c.?—A. Usually we are not troubled with such but there were some cases last summer.

Q. Was it assigned to the cause of using foul water in the neighbourhood, stench, etc.?—A. That was the impression settlers had.

Q. Then upon the whole you are satisfied that the casting in of offal in such quantities that make lodgments along the slough are prejudicial in every way to health?—A. I am satisfied as to that.

Q. Has it prevented immigration and settlement there that otherwise may have taken place?—A. Well, we had so many cases last summer that it is beginning to tell and I think it would be injurious in more ways than one.

Q. Is there any evidence of families leaving on account of it?—A. No, I cannot say any ever left on account of it.

Q. Has it any effect on the disposal and value of land there?—A. Well, that is what I mean by saying injurious in more ways than one– there have been no sales taking place there lately, but I cannot express any definite opinion on that.

Q. All along the slough where the inhabitants live—is it far up from the edge of the slough?—A. No, when first settled the people built close to the water for purposes of getting to the water.

Q. Then the water was very convenient there was it?—A. Yes, we had tanks to keep water and then it was convenient to go with scows, &c.

Q. And that convenience as far as water is concerned has been very materially effected by the cause you have assigned?—A. Oh, yes; we do not use the water any more than we can help now.

Q. Have you ever noticed the effects of this water upon cows—upon the milk at all?—A. I cannot say that it has.

Q. We have had it stated that it affected the milk and that hogs are affected by it?—A. We do not allow our pigs to run down to the slough.

Q. Do you know that pigs will be affected by the matter they eat? Have you ever had pigs that fed on beech nuts?—A. Yes, it makes the meat soft and if pigs eat fish it will destroy the marketable value of the pork.

Q. The reason I ask about the cows is because it is well known by medical men and others that milk is often a means of carrying disease?—A. I may say, as far as I am individually concerned, we do not keep a dairy at all—we merely milk cows for our own use—but if I kept a large number of cows my attention would probably be drawn to it more fully.

Q. Have you thought of any means of getting rid of this offal by manufacturing it?—A. I have not given it much attention myself– there is a small establishment near by where they manufactured fertilizers and oil from this offal. I think it would be a good thing if it could be manufactured.

Q. It is an experimental thing—that is as yet?—A. Yes,—I think if it was manufactured to any extent they would probably be obliged to seek a foreign market—the land here hardly needs it.

Q. But it would be a good fertilizer would it not?—A. Oh, I think so—Mr. Spratt, of Victoria, I think received a medal from one of the exhibitions for his product from fish offal, etc. He made it at Vancouver.

Q. Where the herring was pressed?—A. Yes: of course a similar quality would be made I should think from the offal of the salmon.

Q. I notice that some of the authorities of Ontario have been experimenting on this same offal and are quite of the opinion that it could be made quite a very useful fertilizer?—A. It seems to me that failing to utilize it for fertilizer purposes, it would be better to cremate it rather than dump it in the sea.

Q. That is as showing that it was injudicious to put in the water?—A. Yes, it pollutes the air and is a very nasty thing to have cast upon the shore anywhere.

Q. Has an attempt been made at cremation here at all?—A. Not that I am aware of.

Q. It is the first time that we have heard of the cremation of the offal and it strikes me as a very feasible way of getting rid of it.

By Mr. Armstrong:

Q. Have you any idea of a case or way of doing this?—A. No: but the sawmills here, they burn up the sawdust and refuse. I think the heads, etc., would help in purpose of cremation.

Q. Do you think the close season in taking in the whole Sabbath a judicious plea for upholding morality and religious views as well as letting the fish pass up?—A. Oh certainly, yes.

Q. Have you formed any opinion of the effects of artificial breeding of fish on this iver?—A. No sir, I have not thought much about that.

Q. Should every individual British subject and resident get a license?—A. I have ıever given the subject any particular consideration—I should think though, were I a isherman and had brought my family here, that it was a great hardship if I could not et licenses.

Q. And would you apply that same view to a man who came here and put up a annery—should he get a fair proportion of boats?—A. Oh yes, if not, it would be a ıonopoly.

Q. And you think there should be no monopoly but an equalization as much as ossible?—A. Yes.

Q. Would whole fish come in the slough—would they be partly decomposed or hole fish?—A. I have seen whole fish come in but not so much as some years ago.

Q. Regarding the fish that die far up the river have you any knowledge as to hether fish dying in such numbers would affect this slough of yours?—A. Well, I hink not, because before the canneries were established it was uncommon to see them a the slough at all.

Q. But since the construction of the canneries you have seen whole fish as well as ffal?—A. I have seen them, but not so much of late years.

Mr. Wilmot.—Well, Mr. Kirkland, I don't know as we have any more to ask ou—your object is mainly to petition against the continuance of offal being thrown in he river.

By Mr. Armstrong:

Q. The present close season from 6 o'clock Saturday morning to 6 o'clock Sunday vening—now do you think that should be changed?—A. Well, I never really gave ıuch consideration to that subject.

Q. Well, this is a matter seriously effecting the canneries. The cannerymen claim ıat unless they are allowed to fish on Sunday night they would have scarcely any fish) work with on Monday morning, and so would have their employees idle and would se much time. We would like to have your opinion as to what people think gener- lly?—A. Well, it is hard to make a cast-iron rule—speaking generally I think the abbath should be observed as much as possible.

By Mr. Wilmot:

Q. Then you think the whole Sabbath should be kept if possible?—A. Yes, I ink so; I should like to see it if possible.

Q. Have you anything further to ask, Mr. Armstrong?

Mr. Armstrong.—No, nothing more.

Mr. Wilmot (to witness).—Thank you, sir; that is all.

W. H. LADNER, a delegate *re* offal nuisance from the municipality of Delta, a ıtive of England, resident of Ladner's Landing, B.C., since June, 1868, and living in ritish Columbia since May, 1858, a farmer, was duly sworn.

By Mr. Wilmot:

Q. Well, Mr. Ladner, if you have any suggestions to make upon this question, upon hich you have been sent here as a delegate, or any other matter, we will be glad to ear you.—A. Well, I may mention, as regards the offal question, I have been as great sufferer as any other in the country. I lived there for years before there was a ınnery, and we considered we were living in as healthy a place as anywhere. Then e had no sickness to speak of, but since the canneries were established it has been ıcreasing. I have read evidence given here as to depositing offal in deep water, but it ill not do to put it in the water, because the tide ebbs and flows and the matter will

be brought back. The tide ebbs and flows twice in twenty-four hours; if the offa could be kept in deep water, I don't think it would affect us very much, but its float ability is such that it must rise to the surface sometimes; and then there is so much scum rising from it.

Q. Then, do you think the deposition of offal as at present practiced is injurious t the health of your neighbourhood?—A. I most certainly think so.

Q. Well, then if thrown in deep water—it would sink? Well, suppose it di sink, and all the canneries threw it in the river, would it cleanse the water down at you section?—A. A great deal of it would even then come in—not as much as if in the imme diate neighbourhood, but some would come.

Q. And throwing it out affects your neighbourhood seriously?—A. It does.

Q. What diseases?—A. Typhoid fever, particularly.

Q. And is this fault just at one slough, or are persons living farther away affecte as much as persons living along the slough?—A. I have not heard of a single case typhoid fever except along Canoe Pass, Cohiluthan Slough, and what we call Woodwar Slough.

Q. And how about Crescent Slough?—A. I have not heard of any complain from that one; I live a mile and a half from it, but have not heard of any complain from there.

Q. Then do I understand you that unhealthiness prevails from this offal, and is unwholesome and injurious to have it put in the water?—A. I do think so. Now, w are differently situated to almost any other place in the country. I have tried to drive a Abysinian pipe down there to get water, but I was not successful; we have had to tak the river water.

Q. What effect have you noticed on your stock?—A. Well, we only keep ju enough for the house, but if we had good water I think we would have gone into dai work, but those who have gone into it have given it up.

Q. What kind of ground have you there?—A. It is all alluvial deposits entirel

Q. Do you think this offal could be made into oil or fertilizer?—A. I have se some barrels of oil, and also some of the dry stuff, and I have thought it quite equal the foreign guano we used to get in the old country.

Q. And you think fertilizer manufactured at this factory quite equal to fertiliz you have seen in England?—A. Yes, I do; and you have spoken of cremating it—no do you not think it would be unwise to burn up all that valuable matter when go fertilizer could be made for use in this country?

Q. Yes; but the law says it must not be thrown into the river, and it is for t canneries themselves to say how they will best dispose of it; it is for this Commissi to find out if the throwing in is prejudicial or otherwise.—A. I think Mr. Commissio Armstrong, sir, might give you some information as to what his opinion is, by and l because he has been visiting my house during the fishing season, and his evide would be more valuable than mine as to the effects of throwing in this offal into t river.

Q. I am afraid we would not have a quorum if he left his place at the board.— What I meant to say was that at some future time he would be able to give y valuable information on this question.

Q. Have you ever considered the question of close season? Whether fishing Sunday is a judicious movement or not?—A. Well, I think it is the general opini that a certain time in the week should be observed as a close season.

Q. For what purpose?—A. Well, in both the cause of morality as well as interests of fishing and those engaged in it.

Q. Then from your long residence here, experience, etc., and the difficulties t have arisen here lately between the canners and fishermen—what are your views a an equitable adjustment of the licenses? Would it be right for every British subj and fisherman to get licenses?—A. Yes; I think every fisherman who can equip h self and is a resident British subject, should get a license.

Q. And as between the canners, should they get licenses too?—A. M certainly, sir.

Q. Then as between the canners and the fishermen—what would be an equitable arrangement as between them?—A. I would not like to express an opinion on that.

Q. Do you know how many boats are required to run a cannery?—A. No; it is not in my line of business—I do not know except from hearsay.

Q. Have you ever noticed many dead fish floating down the river or coming into this slough?—A. A few, sir.

Q. Would they be fish that died far up—up as far as Harrison River or above?—A. Well, I think they are spent fish—they have spawned and are making their way to sea again.

Q. Those would be living fish—I mean dead ones?—A. I have seen a few, sir.

Q. Then about the fish that go up—do they all die?—A. Well, I could not say—I have not given that subject much consideration—I have seen many coming down. I would ask whether the Commission has power to take into consideration the pollution of rivers.

Q. Why, are we thus far and our object not known? As I said before, the Government has thought proper to appoint this Commission to investigate the question of throwing offal into this river?—A. Does that refer only to fish offal?

Q. No; everything relating to the fisheries in British Columbia.—A. Well, then, in the case of sewage being thrown into the river, what action would the Government take?

Q. Well, I would think if it was brought before this Commission we would be bound to take it up—the river is, I suppose, affected by this sewage—also the fisheries. —A. Yes: I happened to notice the other day when I was in Victoria, they were digging a sewer near the Hudson Bay stores, and that sewer could have been taken in two rods into the harbour of Victoria whereas they were taking it out some two or three miles, so there must be some reason for not running that into the Bay and instead taking it away out.

Q. Then you mean that there must be some reason for not letting it go into the harbour on account of it fouling the waters, etc.?—A. Yes, sir; I don't think perhaps that it is a matter of very great importance, but we may not have a man here again for some years, and I have thought it might be a matter for consideration.

Q. Yes, sir; the matter has been taken down, and I have no doubt it will receive the consideration of the Commission.

CHARLES F. GREEN, a native of England, a resident of Ladner's Landing and living in British Columbia since 1862, a farmer, and Fishery Guardian for the District of the Lower Fraser during the summer season, was duly sworn.

By Mr. Wilmot:

Q. Well, Mr. Green, what may you have to say upon the fisheries question?—A. Do you wish my views as guardian or as a private individual.

Q. As a private individual, but if you have anything as guardian you may put it in besides.—A. Well, of course the way I got mixed up with the offal business is through reports—reporting it to the Inspector at his request. In 1887 there was a disturbance made about the offal, and I was asked by Mr. Mowat to report—it is in the Blue-book for 1887.

Q. As concisely as possible what were your views then?—A. That it was detrimental to fish, and to try to establish an oil factory, the credit for which I take some to myself.

Q. You have heard the evidence of the three delegates—do you corroborate that evidence?—A. Yes, sir; the Delta cannery being immediately on a corner of the slough, when the tide comes in the offal must come up the slough—it cannot go anywhere else. An oil factory was started and I tried to help the man all I could, so much so that I sent samples to Ottawa and had it analyzed—this is his reply (handing document to chairman)—I sent as good a sample, about 5 pounds, as I could get a hold of.

Mr. Wilmot then read from the document handed him as follows :—

LABORATORY OF THE DOMINION EXPERIMENTAL FARMS,

OTTAWA, 5th Sept., 1889.

C. F. GREEN, Esq.,
Ladner's Landing, B. C.

DEAR SIR,—I now take pleasure in sending you my report on the fish waste or refuse from the salmon canning factory forwarded by you for examination in June last. Chemical analysis affords the following data :—

Water	5·19
Organic matter	46·99
Ash or Mineral matter	47·82
	100·00
Nitrogen in organic matter	3·47
Mineral matter soluble in water	1·14
do do dilute acid	40·98
do insoluble in acid (clay and sand)	5·70
	47·82
Potash	·69
Phosphorid Acid, soluble	·12
do reverted	9·29
do insoluble	8·19
Total Phosphoric Acid	17·60

Valuation per 2,000 lbs. :

Soluble Phosphoric Acid (7½ cts.)	$ 1 80
Reverted do (7 cts.)	13 00
Insoluble do (5 cts.)	8 19
Nitrogen (15 cts.)	10 41
Potash (5 cts.)	76
	$34 16

"This is evidently a very valuable fertilizer and one of special value as a manure for wheat and other grain crops, or for application to soils poor in Phosphoric Acid and Nitrogen. The 'Reverted' Phosphoric Acid, though not immediately assimilable by plants, is more or less easily rendered so in the soil, hence its value is but little below that of the 'Soluble' form. The notable quantity of Nitrogen this fish refuse contains makes this fertilizer one of general application—the Nitrogen being in a form very valuable as plant food."

I have the honour to be, &c.,

(Sgd.) FRANK T. SHUTT, M.A., F.I.C.,
Chemist, Dominion Experimental Farms.

By Mr. Wilmot:

Q. Have you anything to do with the present oil factory?—A. I never had anything to do in a money way but I took great interest in it.

Q. Have you any experience in the use of the fertilizer made from this offal?—A. I have watched experiments.

Q. Well, what was the result?—A. It is very strong—it will burn through a piece of paper unless diluted.

Q. Well, but do you use it in a dry or raw state?—A. Well, the trouble with this man is, he cannot dry it properly—he has no kiln. I have asked him how many fish it takes to make these products and it takes 1,800 sockeye offal to make a forty gallon keg of oil, and then as to the fertilizer—he took the offal from four canneries all season, from the proceeds of that to make 3,500 gallons of oil, and the manure from the same is equal to thirty-five tons. This is his own statement to me. The oil factory is at present I am sorry to say a failure—he cannot get rid of his oil. I have sent samples to all the logging camps in the country and acted as sort of agent for him, but they will not have it at all —it has not body enough. It will not grease the skids except for once or so—they use the dog-fish oil mixed with other matter. They say the dog-fish oil is better than this offal oil, and at present the oil factory is comparatively a failure. And I may say that it is just opposite my house and I get the full benefit of it—the smell is frightful—a skunk is almost *eau-de-cologne* to it.

Q. It does duty in giving aroma instead of strength I expect?—A. It is a frightful place—I could not stand it.

Q. But, from what you know do you think an oil factory established on the best possible principles as now known, that it could be made to pay?—A. Well, you see there is so much common oils, and if they say this oil is too thin, why I don't see how it could do.

Q. How is oil from dog-fish made?—A. They simply take the liver from them and it makes a thicker oil that has more strength than this oil.

Q. Are dog-fish so numerous they take only the livers from them to make oil?—A. Well, it is generally made in small quantities.

Q. What are the size of these dog-fish?—A. Oh, about as big as spring salmon. This man at the oil factory used to work on the Columbia River and he tells me that there it takes only ten heads of spring salmon to make a gallon of oil—they only use the heads there—and after the 10th of June it would require at least one-third more to make the same quantity—but I believe they have given it up there as they found it would not pay either.

Q. Then do you consider it judicious that offal should be thrown into the river?—A. No, I don't; I think there are some canneries on the river where it does not hurt, but at others I think it does.

Q. Well, take the question on its general merits—is it injurious to fish and health?—A. Well, I would certainly say that around Ladner's Landing it is injurious; personally, I may say I am not affected at all, as I am out of reach of it, but I get all the benefit of the oil factory. I am sorry to see this industry does not pay, as I have taken much interest in it.

Q. Well, but many industries do not pay at first; I suppose his operations are just experimental yet?—A. Well, he has been at it 3 or 4 years I think.

Q. What do you think of the Sunday close time?—A. Well, if the close time is altered from being other than at present, the canneries would have to work just the same; if altered from Saturday morning the canneries would have to put up fish on Sunday.

Q. Well, if the close time were made from 6 o'clock Saturday morning to 12 o'clock Sunday night?—A. Well, that would be the worst of all from a guardian's point of view. No man living could look after these outside fishermen.

Q. But you must leave aside the guardian's view; do you think it advisable for all concerned that all of Sunday should be kept?—A. Well, that would concern me too, and if I remain an officer there I would certainly not want to see the close time extended to 12 o'clock Sunday night.

Q. Oh, throw yourself aside; do you think it advisable that the whole Sabbath should be kept or only half of it?—A. From work in canneries or from fishing?

Q. Any way you like to put it, sir?—A. Well, if you give me the other end of it I may get at what you want.

Q. Well, it is at present from 6 o'clock Saturday morning to 6 o'clock Sunday evening; now, if put at 12 o'clock Sunday night would it not be for the best interests of the fishing industry?—A. Well, that is very hard for me to answer, because I know so much about it.

Q. Well, all the more reason why you should answer it?—(Laughter)—A. Well, I know how the morality point is looked at under the present 6 o'clock system, and I know what it would be like if the 12 o'clock were made.

Q. Have you never met men who would not fish on Sunday?—A. Only four of them, sir: they came from Newfoundland; they are the only ones I ever met on the Fraser River. I say, keep Sunday as far as going to church, etc., but I know I have to work most all of Sunday anyway.

By Mr. Armstrong:

Q. You think it should not be changed, then?—A. No; I think the present time quite right.

Q. But how about making it to 6 o'clock Monday morning?—A. No; that would be too long a close season; I prefer to keep it as it is now.

By Mr. Wilmot:

Q. Who should obtain licenses—every British subject and actual fisherman?—A. Yes; my opinion is just something like this—that the canneries should have a certain amount, and then if the river is thrown open I think the matter would regulate itself.

Q. And what number would you give canneries?—A. Well, about the same as now.

Q. Then, with 20 licenses for the canneries that will be in existence this year—that would be 500 licenses?—A. Well, I would throw open the whole river to the fishermen; the matter would regulate itself—it would be a case of "the survival of the fittest."

Q. But which would it be, the canners or the fishermen?—A. Well, nearly all the canneries employ a certain number of outside boats now—the matter would regulate itself.

Q. Is there anything else, sir, you wish to say?—A. Well, I have heard many state about the average of the sockeye. I have weighed some and find the average weight about 7 pounds and that I think would make about 4 or 5 cans. From a large pile of sockeye I picked one that weighed 7 pounds out of thousands and after cleaning it weighed only $4\frac{1}{2}$ pounds, and the same style of fish that was there took $11\frac{1}{4}$ to the case—of course they do not all run alike—some run 9 to the case—I found $11\frac{1}{4}$—sometimes as high as 13—in some years the fish are larger and it goes 9 to the case—perhaps this year they will go about 9—they are always larger in a poor season.

Q. Have you been up the Harrison River?—A. Not as a Guardian.

Q. What about fish dying—do all die?—A. Well, that I think is practically unknown.

Q. Have you ever seen fish coming down in a dying condition, etc.?—Well, last year I took a boat out and tried with a net to see if there were any fish in the river and I did not get a sockeye at all—there were a few cohoes but no sockeyes.

Q. When the sockeyes are coming in plentifully have you ever seen them on the surface of the water?—A. Well, I have seen a few; on the moonlight nights you will see them just on top of the water.

Q. Might there not be thousands of fish down in the water going back?—A. Oh, there might be, but as I said I tried it this time and could not get any—I would rather not give an opinion as I really don't know.

Q. What do you think of the hatchery?—A. I think it a perfect success as far as it goes.

Q. As far as it goes greater than the oil factory?—A. Yes.

By Mr. Armstrong:

Q. How many miles are you supposed to guard?—A. About 20 miles.

Q. What have you to do it with?—A. Nothing but a boat.

Q. And nobody but yourself?—A. Nobody—and if I hire help I have to pay him myself.

Q. And do you think one man can protect that stretch of river?—A. Oh, no; not at all—I have had men turn round and fish after I have passed them.

By Mr. Wilmot:

Q. Then the guardianship is no use?—A. Oh, no; I would not say that.

By Mr. Armstrony:

Q. Are there many violations of the law down there?—A. Yes, they go away out and fish, but what can I do with a little boat—it is very hard work and I have been 7 hours getting from the mouth of the river back home.

Q. Do you think the river could be well guarded if you had an assistant?—A. Of course, it would always help—I can go down the river but the trouble is to get back.

Q. Well, what do you think necessary to properly guard the river?—A. A small steam launch—just a little thing that you could get around to the canneries and see that all was right—especially if the offal law is to be enforced.

———

ADOLPHUS PEEL, a native of England, a resident of New Westminster, and of British Columbia since 1863, and describing himself as a chemist and druggist, was duly sworn.

By Mr. Wilmot:

Q. Have you anything to state to this Commission, sir?—A. Only what little observation I have seen of these fish in studying them during the last 15 years.

Q. What is your opinion as regards offal?—A. Well, if put in deep water I do not think there is any deleterious effect.

Q. If put in shallow water or it lodges along the edges of the water, what then?—A. It would be very deleterious—it would destroy your appetite for one thing.

Q. And you think it injurious to health?—A. Most certainly, sir.

Q. In your capacity as a chemist do you know of any sickness at Delta or anywhere else?—A. Well, that is a moot question—it has not been settled.

Q. Then you are not prepared to give any opinion upon that?—A. Well, my opinion is that typhoid fever does not come from that at all—it is a malarial fever and comes from the flats they live on down there—then fevers come from decayed vegetable matter.

Q. What decayed vegetable matter, do you think, is there?—A. Well, there is swamp gas.

Q. What do you think of the effects of saw-dust upon fish?—A. I think it gills every fish it comes in contact with.

Q. What do you think of the limitation of nets—whether the inhabitants generally who are British subjects and resident fishermen—should they have licenses to fish?—A. I think every one is entitled to licenses—they should be as free as air.

Q. Should they be transferable?—A. No, they should not be transferable.

Q. What do you think of canners—should they be restricted?—A. They should to a certain extent—you should strike a balance—they should not be at the mercy of the fishermen who would withhold the fish.

Q. And how many licenses should they get?—A. Well, that depends upon the capacity of the cannery—if a man puts in more capital he should have opportunities to catch the fish.

Q. Are not all canneries of about the same capacity?—A. No, I think not—I think many put up more than others—then there is a great deal in the management of a cannery too. I have heard also that you don't get any sockeyes in the Fraser River before the temperature is 55 or 56.

Q. And do you think, if it did not get to that, they would not come here at all?—A. It must be an even temperature.

Q. How about the fish away up in the mountains?—A. Well, the fish there come in at a different time—they come in earlier.

Q. And if the water there was of a different temperature would he go back?—A. He would play about until the water reached the proper temperature and then would go on.

Q. What is your idea in regard to the hatchery?—A. I think the hatchery is but a small matter. If I have 500 children and take care of them I will have more out of them than if I let them run in the gutter.

Q. Then you think the fostering care of the Government is beneficial?—A. Certainly, sir.

Q. What do you think of the Sunday close season?—A. I think it good—I would take the whole Sunday. I would make it end on Monday morning because the fish that come in would get a chance of getting out of the fishing grounds entirely—take one day and you may catch them before they get away.

Q. Do you think all fish die that come in the river?—A. I think ninety per cent do, because as far as I know the fish coming in to spawn develop death—they change their colour—they lose their tails—they lose their fins—they get hook bills and we have no information that these fish can grow new tails, nor new fins, from new hooks, etc., and when we catch fish next year they have new tails and fins, etc.

Q. Then you think that all fish that don't lose their heads, tails, etc., go to the sea?—A. My opinion is that fish cannot swim down this river because of the quantity of silt in it. There is eighty grains of silt to every 1,000 grains of water in this river and when a fish comes down he has got to go like lightning, and then to turn up again he has not strength to do it.

Q. But when he goes up what does he do with the silt?—A. Oh, he has strength then. I have seen fish coming down—they may get to the sea, but we do not know enough about them. I think fish that spawn very near to the sea may get back—then some do not go within Pitt Lake at all—you will catch them in the back end—barren sockeye I call them.

Q. Well, doctors differ and patients die?—A. Well, but we have to hear the difference yet—then I have seen fish die—then as the offal question, I do not think it is so injurious.

Q. Do you know that a petition was made by this city against it?—A. Well, I know there is an ordinance against putting refuse into the river, but if the people along these sloughs had sense they would boil the water before drinking it. The Chinamen never have typhoid fever and work eight hour shifts. Why don't they get typhoid? They work along and drink Fraser River water, but they boil it before drinking it—these people along the sloughs should do the same thing.

Mr. PETER BIRRELL, a salmon canner, who had previously given evidence, was recalled on the desire of the Chairman to elicit evidence touching the reported objections made by the city of New Westminster, against the presence of Salmon Canning Establishments within its limits, and the deposit of offal in the river, etc., and was duly sworn.

By Mr. Wilmot:

Q. Were there any canneries built in the town or in front of the town since you have been here?—A. Oh yes, there were two of them—Mr. Ewen had a cannery within the town and Findlay & Lane had one in 1877.

Q. On a smaller scale than now a days?—A. Oh no, they were both large canneries—of course they were not capable of putting up so much fish as now.

Q. Well, was there any difficulty arose between the municipality at New Westminster and Mr. Ewen and Laidlaw regarding the offal being thrown in the river?—A. Oh no, I think not—when these canneries were established here it was thought very desirable for the amount of money they would spend here—I have asked if there was any trouble but have been told that there was none whatever. The municipality of New Westminster gave special inducements to establish these canneries here.

Q. Did you ever hear or know of any case in which either Mr. Ewen or Mr. Laidlaw were fined for impropriety in connection with their canneries in throwing in offal?—A. I have never heard of it; I don't think there was ever such a case as that.

Q. Not within your knowledge?—A. No, not within my knowledge.

Q. There might be and you not know it?—A. There might be, but being a canneryman I would have heard of it. There might have been complaints against these local men—I mean Mr. Herring, who used to salt fish, and Frank Gee; they used to throw offal in the river, and it got stranded and became very offensive to the city.

Q. Have you any recollection of Mr. Herring being fined?—A. No, I have not. There were complaints made against him.

Q. And you have recollections of complaints against canners, but no convictions?—A. No; I believe there were complaints by individuals, but I think Mr. Ewen withdrew because the property was getting more valuable—the railway coming here, and so on—and he thought he would move away where he had more freedom, etc.

Mr. Wilmot.—Thank you; that is all; it had been said that some of the canners had been fined for throwing offal in the river.

HUGH W. GOSSETT, a native of the United States, now a naturalized British subject, resident in British Columbia since 1868, living five miles down the South Arm, New Westminster District, describing himself as a farmer and stock raiser, etc., was duly sworn.

Mr. Gossett.—Well, it seems to me very improper that such men as "Dutch Bill" and W. B. Port, and some others, should have a monopoly of the licenses; I should like to see them deprived of licenses and let the boys around town get a license, because you see they have not the courage to go into an office and ask for one.

By Mr. Wilmot:

Q. What do you mean by "boys around town"?—A. Well, half-breeds and "boys" that are growing up here; and you know it requires a certain amount of courage to go in and ask for a license—they have not the business capacity, I might say, to look after the license.

Q. Why should Mr. Vienna and Mr. Port be refused licenses?—A. Well, they have their business—Mr. Vienna buys and sells fish and has his grocery store, and he is not entitled to license, I think, because he does not go into a boat and fish, but merely holds his boats in abeyance until the sockeye run, and then he takes them and sells them to the canners. He has a great monopoly in this way with his licenses.

Q. Do these men ship and freeze fish and send them away?—A. I think they do in the spring.

Q. You think they should have licenses then to fish?—A. I think they should have.

Q. And canners?—A. They should have licenses to enable them to fish.

Q. Why?—A. Because they have their capital invested in the business.

Q. Have not the freezers?—A. Well, not in the same way.

Q. Then these boys about town—should they get licenses as long as they are British subjects and residents?—A. Well, yes; they must commence some time, you know; they cannot get licenses because they have not fished before, which has been the rule heretofore; I rather think he should be a British subject, but that is a matter I never paid much attention to.

Q. You are a British subject?—A. Yes, sir; I am a farmer, living on the muddy bank of the river, and keeping cattle and horses.

Q. What is your view as to the large amount of offal thrown into the river—does it affect your cattle or anything else?—A. Well, not appreciably; I suppose if a mosquito were thrown in here it would affect the water some, but as now I don't think it hurts me any; there are only two canneries above me.

Q. But if there were several canneries, would there not be an appreciable difference?—A. Yes, it could be measured then.

Q. Then you think freezers should not get licenses, but the boys about town should get them instead?—A. Yes, that is what I wished to say; there is nothing else that I know of.

Mr. Wilmot.—Thank you, sir, then, that will do.

ROBERT HARPER, a native of England, living in British Columbia for five years, a resident of Lulu Island, and a fisherman, was duly sworn.

Mr. Harper.—I live at Lulu Island, down at the mouth of the river; I have been there four years now, and I think there are too many licenses on the river.

By Mr. Wilmot:

Q. Do you know how many there are?—A. Something over 700 I think.

Q. And you think that too excessive fishing for this river?—A. Yes, sir; there is one thing now—we cannot keep sufficient distance apart from one another—we are all within 50 yards of one another.

Q. What number do you think sufficient if 700 is too many?—A. I think 500 to keep it in good fishing order—I think the river can be fished out.

Q. You think so?—A. Oh, yes; I think we have sufficient proof of that. The Columbia River has been almost fished out. I know because some years ago where oysters were fished out in the old country, now you cannot get any native English oysters—they are all Dutch laid.

Q. And you think over-fishing can be done on this river?—A. Yes; I think so.

Q. And 500 licenses would be enough?—A. Yes; and thus make it a permanent thing on the river.

Q. And who would you give these licenses to?—A. I would divide them—give half to canners and half to fishermen.

Q. And British subjects?—A. Yes; but I would not object to a foreigner as long as he could speak English and be here long enough—many of them cannot speak English now.

Q. Would you give a license to a Chinaman?—A. No, sir; he is not a British subject.

Q. And then you think a resident and British subject should get licenses?—A. Yes.

Q. Well, suppose you had 50 Chinamen living here—would not they be entitled to them as much as other residents?—A. Most certainly not—they don't help the country, and most of them cannot speak English. I would not stick at a foreigner if they were here long enough—now for instance there are Swedes here who are good fishermen and good subjects; I would give them to them, for instance; but I would not to people coming here just to get a license; many men come here who have not seen a license before. And I think there should be a difference in the price of those licenses; I think canners and others who do not fish their licenses themselves should pay more than a fisherman who fishes it himself, because they don't fish until the sockeye come as a rule, but as soon as they come plentifully they get two men and send them away—as soon as they come in they put in two more men, and they fish all along the same license. Now, I cannot work the whole 24 hours.

Q. And then you think the canner gets double out of his license because he puts in 4 men?—A. Certainly they get double value—then if I snag my net I have to lose half a day to mend it, whereas the cannerymen have a net man, and as soon as they come in they put him to mend it.

Q. Then the value of the license is more to the canner than to a fisherman?—A. Yes; certainly.

Q. And a canner should pay double—if you pay $20 they should pay $40?—A. I don't say exactly double, but it should be more.

Q. What do you think about this quantity of offal that is thrown into the river?—A. I think it is a great disgrace to the country and very injurious to health, too. Now, where I live there is nothing but the water you get from the river unless it is rain-water, and in the summer we do not get much of that. There is nothing but the river water to drink—I don't know the population, but in the summer there are many

more than in the winter, for then the Siwashes and Japs come, and I suppose there would be 2,000 or 3,000. And then to drink of the water in the summer lays many people up—I have been laid up several times.

Q. What is the complaint?—A. Well, it is a kind of fever—a sort of bilious stomach trouble.

Q. And you attribute this to the offal?—A. Well, yes; I think so—you go along the river when the canning is going on—it is more like a cess-pool; the offal lies there and rots and then at the close of the fishing season you are eaten up by flies; they breed from it, I think.

Q. Do you believe that offal can be all eaten up then at the factories where it is thrown out?—A. Oh, no; not nearly all of it—you can catch it in your net several miles out—I have caught offal in my net out half-way between the lighthouse and Garry Bush and plenty more too have done this than me.

Q. What effect has this on the nets?—A. Well, a smut rots the net. If fish are running you can use a net up in a part of the season, but if less fish are running you will sometimes use a net for the cohoes also.

Q. Is it usual for fishermen to get new nets every season?—A. We have two nets, sir—one for spring salmon and one for sockeye, but most people here are not genuine fishermen—they simply get a license and go in for the sockeye. Now, with ten boats any cannery can be run easily. To give these canneries twenty boats each—it is simply wiping off the fishermen altogether.

Q. Then, if twenty licenses each are given to canners, it is tantamount to running fishermen off the river?—A. Yes, sir; even now, when you sell to the canneries, they will give you a limit—they will not take all the fish from you.

Q. Do you not think canneries should have some limited number of licenses?—A. Yes, I do; because if you don't give them a number, the fishermen will run the price of fish up to more than the canners can pay.

Q. What is about the average catch of salmon?—A. Well, I cannot tell you the average—I have caught 507 salmon in one tide.

Q. Well, but the daily catch in the sockeye season?—A. Well, that will depend upon what kind of a run it was.

Q. Well, suppose we take a big run?—A. Well, I suppose about 350 or 400—probably 500 in the twenty-four hours. Well, now, their own boats might catch a great many more than that—sometimes their boats may come in twice in the twenty-four hours.

Q. Well, then, how many would canners average per boat per day?—A. Well, I should think they would catch more, but still you know the men only get $2 and $2.25 for going out all night, and they often make their boat fast during the evening.

Q. Cannot you tell us how many fish you get in a season?—A. Well, I cannot say exactly—I got something like 3,000, I think, last year. I worked for a man who had three licenses. He had three men in a boat and I was one of them. We worked sixteen hours in the boat and eight out—one relieved the other and we worked all the time, but I cannot say exactly how many fish I caught. I can get the numbers and send them up, if you like.

Q. Well, do you catch 1,000, 5,000 or 10,000?—A. Well, I cannot tell you exactly how many I caught. You see, there was a book and it got muddled up, for we all three were catching the fish.

Q. Are there any other remarks you desire to make?—A. Yes, I wanted to make another remark, though I don't know as you are the proper person for me to speak to about it. You see, if you give me a license now and there are no canneries open, I have to take my fish to the markets, and there is only one person to whom I can sell.

By Mr. Armstrong:

Q. Two?—A. Well, we will put it at two; and I cannot sell my fish to any one else, and they pay me just what they like. Now, if I pay a license fee of $20, should I not be able to sell, too? You see, I cannot sell a fish unless I pay another license, and if I go out of town I would have to pay another; and if I take it to Vancouver, I will have to pay another there.

By Mr. Wilmot:

Q. But if you were a farmer and grew potatoes, would you not have to pay a license to sell them in the market?—A. Well, I am not a farmer. If a man has a license, why can't I sell to whoever I like. Then, there are a lot of people, farmers, etc., who get licenses, but they cannot use them—they put Japs or Siwashes, etc., in it to work it, or whoever comes along—they would give it to me, if I caught on, I suppose.

Q. Then, you think the system wrong that prevents a fisherman selling his fish where and how he pleases?—A. Yes, I do think so. Now, I think the market-men selling fish should not have licenses to catch fish. If he is a fisherman, let him catch the fish: but if he is a market-man selling fish, let him sell them. I would like to get a little shop and sell, too, if I could.

Q. Then, what do you think of the hatchery on the river?—A. Oh, I think it is a great success.

Q. And you think there should be more of them?—Yes, certainly.

Q. And what do you think of the close season?—A. Oh, that is a good thing—you must have some time to let fish get up. Why, if you were down the river and saw the numbers of boats that are there, you would think very few fish got up river.

Q. Then, do you think there should be any fishing at the mouth of the river? Would not more fish get up, if there was not so much fishing?—A. Why, yes. I don't think there are any fish get up at that time—the nets are all strung across. Why, they get on top of one another almost, and get crowded up and tangled on everything. Why, last summer I saw a lot all tangled up on that "Noah's Ark" that brings snags up the river.

Q. And you think the close season a proper one?—A. Yes, I think so.

Q. What about those people who keep the Sabbath wholly?—A. Well, don't they keep it holy, sir? (Laughter.)

Q. Oh, you think it is all right after you go to church?—A. Certainly, sir.

By Mr. Armstrong:

Q. Suppose we extend it from Saturday morning at six o'clock to Monday morning at six o'clock?—A. Well, I don't think that will do, because you want to get as much fish as you can while the fish are running—you can get them at no other time.

Q. Why not fish on Sunday then?—A. Well, you want some time to let the fish get up.

Q. Then would you extend the Sunday close time to 12 o'clock from 6?—A. Well, I don't know; it depends a good deal on the tide. More fish would come up as a rule, but I don't think there are a great many fish caught in that time.

Q. Then fish keep Sunday, do they?—A. I would not like to say that. (Laughter). You see it is a broken day anyway.

Q. Well, but suppose we made it a whole day up to 12, would it not let more fish get up?—A. Yes, I think it would, and then if you made the boats 500 I think it would give good chances to let fish get up.

Q. Well, have you anything more to say, sir?—A. Well, I don't know as I have. I suppose you know that canners employ more Japs and Chinamen than they do white men on the river, and the more licenses they would get the more of those people they would employ.

Q. Then if they got more that twenty boats you think they would not want white fishermen?—A. Not if they had twenty; they would not have any use for white fishermen.

By Mr. Armstrong:

Q. Now, you say 10 boats would supply a cannery; you have been fishing for five years—in how many out of those five years would 10 boats have supplied a cannery?—A. Three out of the five, I think—of course you gentlemen have more opportunity of going into figures than I have—I am only giving you my opinion.

Q. Well, that is just what we want—opinions on the various points?—A. Yes; of course you don't want opinions on matters you don't want to know. Well, sir, is there anything more I can do?

Mr. Wilmot.—No, sir, thank you ; you have given us quite new information, and which will interest us very much.

No further evidence being forthcoming, the Chairman declared the Commission adjourned at 3.45 p.m., to meet again in Victoria, B.C., at 10 a. m. on Thursday, 3rd March, 1892, the place of meeting having been left to Mr. Commissioner Higgins to arrange.

Representations made by representatives of the New Westminster Board of Trade to Mr. Commissioner Wilmot prior to departure of Commission for Victoria.

New Westminster Board of Trade,
New Westminster, B.C., 2nd March, 1892.

A delegation from the New Westminster Board of Trade, consisting of Messrs. D. S. Curtis, C. J. Major and W. A. Duncan, called upon Mr. S. Wilmot at his rooms, in the Colonial Hotel, at 10 a.m., and were introduced to the Commissioner by Mr. Major.

Present:—Mr. Wilmot and Mr. Secretary Winter.

Mr. Wilmot.—Well, gentlemen, anything you have to state I will be glad to hear, and we will incorporate it in our proceedings.

Mr. Curtis.—In taking evidence here we thought that there was one important matter forgotten, and in a nutshell it is this: The canners and fishermen are very anxious that any change made in the regulations will be communicated to them as soon as possible. We had a meeting of the Board of Trade last night, and it was agreed that this should be done ; it is most important for all parties that this should be so.

Mr. Wilmot.—Well, gentlemen, I may say I have thought of this matter and the importance it is to the fishermen especially, and I have written to the Minister about it to issue *interim* licenses. Of course the canners don't need licenses until July.

Mr. Duncan.—Well, Mr. Wilmot, I may say the canners have to make their cans over two months before they get a fish, and there is always this risk until they know how many boats they can fish. The cans are not of any use another year, as they rust, and it is necessary they should know how many boats they can fish and how many fishermen's boats they can get—it is most important.

Mr. Curtis.—This, Mr. Wilmot, is a copy of the resolution of our Board. (Handing in document).

Mr. Wilmot (reading):

"New Westminster Board of Trade, 2nd March, 1892.

"At a meeting of the Board of Trade, held on the 1st instant, the following resolution was passed:—

"'That in the event of any change being made in the regulations governing the Fraser River fisheries this year, this Board urges the Commission to take such steps as may be necessary to make known the nature of these changes at the earliest possible moment, so that the fishermen and cannerymen may make arrangements to adapt themselves thereto.'

"Certified correct,
"(Signed.) D. ROBSON,
"*Secretary.*"

Mr. Wilmot (continuing).—Well, I may mention, when in Victoria some days ago, Mr. Earle and some of the canners met in his office, and this matter was talked over, and I suggested their writing to the Minister and ask for the issue of *interim* licenses, and they thought it would be very important indeed for the fishermen, but that it would not effect the canners so much. When he wired the Minister, the reply was to the effect that he was quite satisfied with the present regulations on the matter.

Mr. DUNCAN.—Well, it was thought that after the Commission got through with their work and made their report, etc., a great deal of time would elapse, and it would be better to have some arrangement made beforehand.

Mr. WILMOT.—Well, I think myself, individually speaking, that it would be injudicious to make any decided change before another season. This, of course, is my own individual opinion.

Mr. CURTIS.—But it is intended though, Mr. Wilmot, for the Commission to make a report on this season, is it not?

Mr. WILMOT.—Well, I should think there would not be any trouble in deciding about the number of licenses, for instance, and that, I think, we could settle when we get back from Victoria.

Mr. CURTIS.—That is the important thing. There are but three important questions in this matter—the number of boats to be fished, the close season, and the offal question.

Mr. WILMOT.—Oh, yes; those are the important ones.

Mr. MAJOR.—We wish to have it placed upon record—the resolution of our Board in this matter—so it will not be overlooked in any way, as if anything very different is done without due warning, it would upset their whole arrangements for the season; and, as Mr. Curtis suggested, if there is to be any material change it would be well to have if laid over for another season.

Mr. WILMOT.—Well, when do the canners commence making their tins?

Mr. CURTIS.—In May or in the latter part of April.

Mr. WILMOT.—Then, if the matter were decided by the latter end of March, it would be all right would it not?

Mr. CURTIS.—Oh, yes; that would do very well. It is important that we should know a little time beforehand. Now, in 1890, when I was in the busiuess, the canneries got according to the pack put up in previous years, and we got seventeen licenses, but we did not know of it until quite late.

Mr. WILMOT.—Why in 1890, I thought, there was an established number of, I think, twenty.

Mr. CURTIS.—Well, there were four canneries got only seventeen licenses.

Mr. WILMOT.—Well, you were entitled to twenty in 1890. However, it is immaterial now. At present the number stands at twenty for each cannery, and if no effects take place from this Commission, it will stand at twenty.

Mr. CURTIS.—Well, we only got seventeen, and yet had a capacity for putting up 20,000 cases.

Mr. WILMOT.—Well, now as you say, the three important points are—the number of licenses, the offal, and the close time?

Mr. CURTIS.—Well, the close season is all right as it is now.

Mr. WILMOT.—Well, I may say that all over the Dominion it is felt that the whole of Sunday should be kept without work—that it be made until 12 o'clock—now, it was the canners themselves who asked that the time should end at 6 o'clock—the Department desired to make it 12 o'clock, and now I think there is a disposition all round that the whole of the Sunday should be kept—many of the fishermen here we find would like to keep all Sunday—several have stated their desire to have all Sunday.

Mr. CURTIS.—Well, it is like this—if fishing is not done on Sunday night they will have nothing to work with on Monday morning.

Mr. WILMOT.—But if you fish from 12 o'clock Sunday night?

Mr. CURTIS.—Well, of course we would have some.

Mr. WILMOT.—But the fishermen tell me they catch more fish if they do not fish on Sunday night—the fish having a rest, as it were, gives them the better chance.

Mr. CURTIS.—Well, we had fishermen in our establishment who would not fish on Sunday—Newfoundlanders, etc.

Mr. WILMOT.—Well, that is just a good reason, Mr. Curtis, why it should be made to 12 o'clock—we want to encourage such citizens to come into the country and run out these Greeks, Italians, etc., for they are good citizens after the fishing season is over. Then we have thought from the way it has been represented to us that it would be much better to have a good fishing community who would keep Sunday and be good citizens

in every way. Now in regard to the Indians they tell me that up on the Skeena and other rivers they do not like to fish on Sunday and it makes things better in every way.

Mr. CURTIS.—Well, that is very well, but I do not think you should have more than 36 hours of a close season.

Mr. WILMOT.—Well, let them fish on Saturday then.

Mr. CURTIS.—Then they will have to work on Sunday to get rid of them.

Mr. WILMOT.—Well, there is only six hours and I think the benefit of the fish getting up the river should weigh against the wishes of the canners.

Mr. CURTIS.—And if the canners do make a few dollars more what does that matter to the others? I must say, however, in all fairness that some of those men who would not fish on Sunday had the greatest number of fish caught to their credit.

Mr. WILMOT.—Then you see there does seem to be some kind of providence looking after the good fishermen (laughter.)

Mr. DUNCAN.—I may say, Mr. Wilmot, there is a great deal of talk about the fish decreasing in this river—now I don't think there is any sign of that at all.

Mr. WILMOT.—Well, it has been handed down from time immemorial that fish run in cycles, and yet look at the returns—you can pick them out from the reports.

Mr. DUNCAN.—Well, but you cannot judge by the reports—it depends so much upon the amount of plant for catching the fish and conducting the fishing operations, the facilities for doing the work, etc.

Mr. WILMOT.—Well, these questions have been asked so as to obtain information as to habits of salmon, etc., as well as to elicit opinions upon matters in connection with your canning business—some say there is an "off" year every four years, etc., and when we put these altogether, you see we will be able to get some valuable data.

Mr. MAJOR.—Yes; there is another point too—about the hatchery.

Mr. WILMOT.—Oh yes; now you gentlemen of the Board of Trade what do you think of the hatchery—has it been a success?

Mr. DUNCAN.—Yes, it has—and I think the other gentlemen will agree with me in the same.

Mr. CURTIS.—Well, I attribute the less number of "off" years to the hatchery.

Mr. WILMOT.—Well, I could not give the same amount of credit to it that many others do, because it has not been upon a sufficiently large scale, but still, of course, I believe in artificial breeding as a supplementary aid to the natural, but I do not think if the natural breeding grounds are not cared for the hatchery will make up for it.

Mr. MAJOR.—You must remember, Mr. Wilmot, that this is a specially productive country.

Mr. DUNCAN.—I certainly believe that the hatchery has been beneficial—now, take the number of fish caught on the Fraser River in a whole season—I do not suppose they would be more than two or three millions—now if you put out many millions of young ones, even if but a small number escape, they must aid the supply very much.

Mr. MAJOR.—Well, I must say I expected more information on this head to come out before this Commission—I may say I have been somewhat disappointed at not hearing more, but the time will not I presume permit of going extensively into the question of the habits of salmon on the Pacific coast—I fancy they vary somewhat from the habits of salmon on the Atlantic?

Mr. WILMOT.—No, not the habits, but you have a great many more families of salmon here than we have in the east.

Mr. MAJOR.—Well, there are a great many other questions—now it is held that the young fish from this river come back again to the Fraser River.

Mr. WILMOT.—Yes.

Mr. MAJOR.—But why? There must be a reason—why, in passing the Columbia River do not they go in there?

Mr. WILMOT.—Well, salmon go in families—they all know their own rivers.

Mr. MAJOR.—Well, if you notice them at the mouths of rivers you will see them in thousands away at the mouths of the rivers all along the Pacific coast and they will wait there until a certain time before they will come in Now do you think the young salmon from the hatchery will come into this river again?

Mr. Wilmot.—Yes, certainly ; now I have had much experience in this matter—in the eastern provinces the same thing prevails—in the St. John River the fish come in and the fish belonging to the different streams running in can be told to which they belong.

Mr. Duncan.—Well, I think there is no doubt about that—fish here have been marked with silver rings in the tails and have been caught coming back.

Mr. Wilmot.—Oh, yes ; they have been marked at different places—that has been done frequently and the fact of their return is altogether beyond question.

Before we part, gentlemen, I may say I was asking Mr. Robson if there was any time in your city when complaints were made about the effects of offal in the river and if there was any convictions ?

Mr. Major.—Well, yes ; there were complaints about the offal from English's Cannery here and we made a row about it.

Mr. Wilmot.—Do you know if it is on record ?

Mr. Major.—Well, I don't know of that, but I may say that with our water here there comes down a silt and sedimentary matter which after it stands a little time has a disagreeable smell and becomes offensive.

Mr. Wilmot.—Well, gentlemen, in conclusion I may say that I do not think the Department desires to hamper the canning industry in any way, but many complaints have been made on this point and we desire to arrive at a correct conclusion as to its effects. I may say too that I was quite struck with the complaints of the people from Delta the other day. Delegates from the Municipality came here and represented that the effects were most injurious, not only to their stock but to the general health of the community, and you, gentlemen, will readily see that when the public health is threatened the convenience of a few who do not reside, except in one or two solitary instances, in the neighbourhood effected, cannot bar the way to change and remedial measures for the bettering of things for the safety of the community. My own opinion is that a valuable product can be made from this offal in the shape of both oil and fertilizer.

Mr. Duncan.—Oh, yes ; has anything been done upon that point ?

Mr. Wilmot.—Well, we have got considerable information on this subject, but as yet it seems to be in an experimental stage. In the papers recently there appeared an article upon this very matter—in the "Colonist" of 20th February last, I think it was —giving an account where samples were sent down to the Ontario Department of Agriculture and an analysis was made which showed that a most valuable fertilizer could be made from the offal—I think they placed its values at about $34 a ton.

Well, gentlemen, if there is nothing else you desire to represent, I will now ask you to excuse me—we are leaving for Victoria to-day, and have not very much time just now to spare. Your request shall have the best attention of the Commission and your statements will be placed on record with our proceedings.

Mr. Curtis.—Thank you, Mr. Wilmot, we will not detain you longer—the importance of the industry and the injustice of giving our people fair warning of any change or intended change in the regulations must be our justification for coming to you at this late hour.

The delegation then withdrew at 10.30 a.m.

Victoria, B. C., Friday, 3rd March, 1892.

Morning Session.

The Commission met in the Board of Trade Rooms, Victoria, at 10 a. m.

Present :—Mr. S. Wilmot, in the chair ; Mr. Commissioner Higgins, Mr. Commissioner Armstrong and Mr. Secretary Winter.

At 10.15 a.m., the Chairman called the Commission to order.

Mr. Wilmot.—This meeting having adjourned to Victoria, till 10 a.m. to-day, I now declare this Commission open for business.

Mr. Robert Ward.—May I enquire Mr. Chairman, as to the scope of this Commission? Most of the gentlemen present to-day have had no chance of being at any of the previous meetings, and would like to know the scope and powers of this Commission.

Mr. Wilmot.—The sphere of the Commission is to take in all matters relating to the fisheries of British Columbia—if there are any gentlemen present desirous of submitting anything to the Board we are open to receive it.

Mr. STEPHEN SPENCER, a native of the United States, and resident of Alert Bay, B.C., living in British Columbia for some 35 years, by occupation a salmon canner, was then duly sworn.

By Mr. Wilmot:

Q. Now sir, what have you to submit?—A. In regard to seining operations in the Nimkish River—I do not think, of course, as established for the last 10 or 11 years, and always using seines, we can catch fish in any other mode except with seines. As very likely the Commission is not aware how we use those seines, perhaps it would be better for me to explain, so you may judge. We have seines with meshes according to law, and fish have access to the river at all times. We can only fish at certain times—we never fish at night time, because we cannot see. When we extend a net we never extend it across the river—we put it out merely to get them but we never fish at night time—that is not in consideration, because we cannot see and there is therefore uninterrupted chances for the fish to get up the river for nearly eighteen hours out of the twenty-four. There is no possibility of gilling them, because there is no water and only one or two places where we can haul the seines so to speak. The first year we were canning the fish were very plentiful.

Q. What year was that, sir?—A. Some eleven years ago, I think—the first year they were plentiful, the second they were not, and it was with great difficulty we got 4,000 cases—some years since they have been plentiful and some not.

Q. The Nimkish River—the "Alert Bay" Canning Co.?—A. Yes sir.

Q. How long ago is it since you commenced fishing there?—A. Some eleven years ago—the runs varied from year to year. In 1890 for instance—that was the year of the most plentiful fish on the river and when our cans were all full.

Q. 1890 was the biggest year on the river?—A. Yes; 1890.

Q. What in 1889?—A. Fair—6,000 cases, I think, we put up, but still we never fish after we put up a certain number of cases—we calculated the capacity of the cannery at some 6,000 cases and could have canned much more that year but we only calculated to fill a certain number of cans, but for some weeks after that the fish were plentiful but not one fish was taken out of the river.

Q. Can you estimate how many you might have taken out?—A. Well, I don't know; I think we could have taken some hundreds more cases. In 1890 our pack was about 7,200 cases; last year, it was just the reverse. I only packed some 700 cases. The last year was about the worst since I have been a canneryman.

Q. Are facts as recorded that in 1887 you packed 4,200 cases?—A. Well, I don't know. I don't recollect ever giving anybody the correct number, but I don't doubt that it is correct.

Q. No; I am not referring to the departmental account; I am simply taking it from the report of the British Columbia Board of Trade.—A. Of course, I give the figures into the department, but I cannot tell from memory.

Q. How do you account for the great falling off in these years?—A. Well, I don't know. I think it a freak of nature, that is all. Perhaps there was not food there for them to induce them to come.

Q. Do you think there could be too much fishing and not enough left to breed?—A. No; I don't think so. There has never been any abnormal fishing there. I have heard that the Indians do fishing that is injurious, but there has not been any change at all in the mode of Indian fishing. There is always a clear road for the fish to go up.

Q. Then you think it must be some other mode of fishing, or something else than Indian fishing?—A. Yes; something else.

Q. And are these sockeye?—A. Yes.

Q. And they have fallen off in quantity?—A. Yes; they have; but it is not because fish have not had opportunity to come in to spawn, for every year they have had plenty of time, even after our cans were filled. And it cannot be said that it is on account of the seine fishing; they are not as bad as gill-nets, for we can only fish at certain times, and there is plenty of chance for them to get up.

Q. Is it a fact that there are small lakes at the head of this river?—A. Yes; there are small lakes some sixteen miles up from the mouth.

Q. And these are the breeding places of the sockeye?—A. I suppose so—yes.

Q. How wide is the mouth of the river at low tide where you draw your seine?—A. Well, probably it is more than 200 or 300 yards, but we fish in salt water at low tide. We haul on the little island, but it is covered at high tide and is right in salt water.

Q. How do you pitch your seine—go out in a boat?—A. We go out on shore, and the fish show themselves on the surface; then we go out with the seine and make a water haul.

Q. When you see the fish?—A. Yes; we have a good many water hauls.

Q. Then your system is—when you see fish showing on the surface, you try and surround them and bring them in. Sometimes you get fish and sometimes not?—A. Yes; we frequently get water hauls. Last year they were very frequent.

Q. What kind of seine do you usually use—one with corks on top and leads at the bottom?—A. Yes; the usual seine; not a bag-net, by any means. The meshes are those regulated by law.

Q. The lead lines sweep the bottom do they?—A. Well, it all depends on the current—sometimes no current will take them down.

Q. How many boats do you fish with?—A. Two; there are only two licenses on the river; I have fished under special licenses from the department; formerly it was $25 for each seine.

Q. And what is the length of the seine?—A. 150 fathoms.

Q. And the depth?—A. I cannot tell you.

Q. Well, how many meshes is it deep?—A. Well, I can't tell.

Q. If you fished in 30 feet of water it would be 30 feet deep, I suppose?—A. No; it varies.

Q. How deep is it where you usually haul your seine?—A. I cannot tell you because it shoals off, and you may get them in deep or shallow water.

Q. But the tendency of the net if shallow is to go to the bottom?—A. Certainly.

Q. And it will sweep the bottom as far as it goes?—A. Yes; that is the purport of it, as far as it goes.

Q. Could you tell us the number of fish you have taken at one haul?—A. Well, I cannot tell exactly, but I think possibly 1,000 at one time; we once filled nine boat loads with the result of one haul, somewhere about 8,000 fish; that was the biggest haul at one time ever made on the river; that was last year, and the day after I could have taken a much bigger haul from the look of the fish.

Q. You say you can fish only in certain places, what is the reason?—A. There are many snags there and you have to keep clear of them.

Q. What is the radius of water where you usually sweep your seine?—A. About half a mile.

Q. Could you not use gill nets there?—A. No; I have tried it, but it was not successful.

Q. How do others use gill nets at the mouth of the Fraser River?—A. Because the water is not clear; it is muddy.

Q. Well, how about in the eastern provinces where it is all clear water?—A. Well, I do not think it would do here.

Q. Do fish stay at the mouth of the river awhile before they go up?—A. Yes; they do not go up for a few days. I contend no fish go up until they are mature and ready to go up; in other words until ready to spawn.

Q. How early do you commence fishing there?—A. About the end of June.

Q. Do any fish spawn in June, to your knowledge?—A. No.

Q. Then they are waiting there to go up and you catch them while they are waiting to go?—A. Well, I do not say they are all waiting to go to spawn, and then the Indians catch many.

Q. What are the meshes of your nets?—A. 3½ inches. I think the law requires 3½ to 3¾ inches.

Q. Are the meshes in the bag of the net any different?—A. No; all one measure, 3½ inches extension measure.

Q. What is the average size of sockeye salmon there?—A. Well, the average year will take about 12 to a case.

Q. Making your salmon about 7 pounds?—A. Something like that; some years larger and some smaller.

Q. And about 12 to a case?—A. Yes; about that on the average.

Q. How many cans to a fish, four?—A. Four cans.

Q. And the difference between four and seven and eight would be offal?—A. Yes.

Q. What do you do with the offal?—A. It is deposited in salt water; you perhaps are not aware that the canneries on the Nimkish River are on a little island, about two miles from the mouth of the river. The fish are caught in the river and brought over to the cannery and cleaned there; we have a shoot that takes offal out into salt water and it is carried off; in a week's time after we have done fishing there is nothing seen of it.

Q. Have you any exclusive right by lease or otherwise to the river?—A. I don't own any portion of the river, but I have a claim there. I applied to the Government for a lease and the Government agreed that I should have the right to fish for $150.

Q. Do you take out boat licenses?—A. I don't need to take license; I was fishing under lease. Before having the lease I paid $25 a year for a net.

Q. How many persons are employed in your cannery?—A. Between fifty and sixty.

Q. Principally what?—A. Indians principally.

Q. How many white men will you have in that establishment?—A. Eight or nine; we don't have a large number.

Q. What number inside the cannery for all purposes?—A. About three; the balance are principally Indians and a number of Chinamen.

Q. How many Chinamen?—A. About eleven; last year I think it was eleven; sometimes I have had more but I have tried to utilize the Indian labour.

Q. Are your boats fished by Indians or do you buy your fish from Indians?—A. I have bought them from Indians.

Q. Where do they fish for them?—A. Up the river in the narrow passes chiefly.

Q. Does not your employing them make them catch more fish than before you went there?—A. No; I don't think so.

Q. Then they deprive themselves of food?—A. No; you mistake the habits of the Indians altogether; they don't want the sockeye at all.

Q. What are the fish in your river?—A. There is the blue-back, as we call them; then there comes the sockeye; then the satsum.

Q. Is that the same as the cohoe?—A. No; they are a large fish, twenty pounds or so.

Q. Are they not spring salmon?—A. Well, some say so, but others do not.

Q. Then the Nimkish River is inhabited by much the same fish as other rivers along the coast?—A. Yes; I think so.

Q. But your principal fish is sockeye and that has decreased of late years?—A. Yes; sockeye is the principal one, but I don't think they have really decreased; some years there are less than others.

Q. And you say the Indians will not eat sockeye, but will eat others not as good; the humpback for instance?—A. Well, they will not use them, but they want the humpback for drying.

Q. But you don't use the humpback for your work?—A. Not at all. I contend that it was only a freak of nature that fish did not come last year.

By Mr. Higgins:

Q. Where do these fish go to spawn?—A. Well, as far as I know they have been seen in the lakes above.

Q. Have you ever ascended the river or been up to the falls?—A. I have never been to the falls.

Q. Have you ever heard of obstructions being put in the channel to prevent fish from going up—Indians put rock in so as to dam the channel?—A. I never knew anything of the kind—the Indians have a reserve and they simply put the regular net there but in no case obstructing the river.

Q. Do fish go up river in large quantities?—A. They do.

Q. Have you any experience in regard to the life of fish after going up to spawn?—A. Well, I have some knowledge—everybody varies.

Q. What is your experience?—A. I think fish go up and return—of course a certain percentage die.

Q. Have you ever seen any dead fish up there?—A. I never have—I have heard of dead fish being seen up on the lake—Capt. J. McAllister who has prospected up there has told me he has seen them—then I have tagged fish—have marked them and have caught them the following year.

By Mr. Wilmot:

Q. In good condition?—A. Just as good as others.

Q. Do you think Indians have any object in preserving the fish?—A. Well, I don't think they care—it is the hardest thing for me to induce those people to go fishing for me—they are a happy-go-lucky people.

By Mr. Higgins:

Q. You say you throw offal in the water—is it in deep water?—A. It is thrown in salt water and goes out to sea.

Q. Have you seen scavenger fish eat it?—A. Yes, lots of them.

Q. And if offal lies at low water would the tide take it all away and would the little fish eat it all before the next low tide?—A. Well, they would not eat it all always, but it would soon go—sometimes it might lay for 24 hours.

Q. Regarding the failure of fish last year, have you any hatchery up there?—A. No, none.

Q. 7,000 cases was the largest number of cases you ever put up?—A. Yes, by about 1,000 cases.

Q. Do you think putting up that number of cases had an effect on the run of fish?—A. No, not, at all.

Q. Fish are very erratic?—A. Very erratic—look at Skenna River.

By Mr. Wilmot:

Q. May I ask you, Mr. Spencer—you say that in '90 your catch was greater than in former years—you mean your pack, not your catch—did you not pack from other places?—A. No, not to any great extent.

Q. Then your pack in '89 and '90 was lessened and you resorted to other places to make up the amount?—A. Not at all, sir.

Q. But in 1888 your pack was 5,000, and in '90, 7,280 cases, and you have supplemented your pack by getting them from other places?—A. Not at all—I was prospecting, as we say, to get fish and to see where they were, but I didn't make it up—I got a few, but not many—I could have caught plenty in the Nimkish River if I had wished to can them.

Q. But you did supplement your catch in '89 and '90?—A. Not at all—I do not consider that at all in that way, because I could have filled more cans out of the Nimkish River, but as I had the fish caught from prospecting around, I put them up, but I could have caught plenty of fish in the Nimkish River.

Q. Well, what I want to get at is—a complaint has been made that fish have much decreased in that river and it would go to show that from your catch—now in 1887 you put up 4,200 cases, in 1888, 5,000, in 1889, 7,140 and in 1890, 7,280 cases—therefore in 1889 and 1890 there must have been some aid from other places?—A. Not at all—I don't consider it aided me in one can—I always cease when I get a certain number of cans.

By Mr. Higgins:

Q. You always stop when you get a certain number of cans?—A. Yes.

By Mr. Wilmot:

Q. In 1890 you took the usual number of cases?—A. I filled 6,000 cases—all the cans I had.

Q. In 1891 you got only 600 cases?—A. This year was different—I had tins left over then.

Q. You say all salmon do not die?—A. Yes; my opinion is a certain percentage die but not all—I would like to put a man on the stand who is a practical man and who knows all about the river and can tell you all about the fish, etc., there.

Mr. Rithet (from the audience).—Mr. Chairman, I would like very much to put a question to Mr. Spencer before he leaves the stand, or if you will ask it for me?

Mr. Wilmot.—Well, we objected to that before, but if the other Commissioners are willing, I of course will not object.

Mr. Ward (from the audience).—I may say, Mr. Chairman, that it is the usual practice in courts to allow questions being asked.

Mr. Wilmot.—That would be tantamount to counsel, would it not?

Mr. Ward.—Yes; I think it would.

Mr. Higgins.—Well, I think that we should permit this question being asked—I am of opinion that the fullest possible scope should be given to this enquiry.

Mr. Wilmot.—Well, if gentlemen like Mr. Spencer, or any other gentlemen, comes forward he should have prepared his statement on any matters and then let us question him.

Mr. Higgins.—Well I think a question like this should be allowed—when I was over there in New Westminster, I saw questions allowed.

Mr. Wilmot.—Only in one instance, sir.

Mr. Higgins.—But he had it nevertheless.

Mr. Armstrong.—Well, that is one of the questions that I feared would cause trouble from the commencement—we found after allowing one man to come forward everybody wanted to do the same—now if we allow Mr. Rithet to ask questions it would be tantamount to counsel—now I do not think that counsel is at all necessary at this stage of the proceedings—if counsel were necessary it should be where the preponderance of the evidence was taken—I think Mr. Higgins is wrong in saying he heard questions put at Westminister.

Mr. Higgins.—Well, I heard a man put questions when there—now the Chairman has stated that the question should be allowed.

Mr. Wilmot.—Well, If I agree to allow this, I will do so only if we are not to have it again.

Mr. Higgins.—I won't agree to that at all.

Mr. Wilmot.—Well, if Mr. Rithet wants to put a question it will be heard with all attention possible, but we made certain rules when we commenced this Commission—Mr. Higgins has said he heard questions put in New Westminster, but I must say it was only as an exceptional case.

Mr. Rithet.—Well, gentlemen, I very much regret indeed if such a simple request of mine is to be the cause of so much trouble. I am sorry that I attempted to put any questions, but I came to this Commission under the idea that it was open to the public and that every bit of evidence bearing upon the fisheries would be admitted, but if I am mistaken——

Mr. Wilmot.—Pardon me, sir, are you making a statement on your own account, if so we must swear you the same as all other persons.

Mr. Rithet.—Well, excuse me, I was apologizing. The matter about which I wished to speak arose out of the evidence given by Mr. Spencer.

Mr. Armstrong.—Still, if we allow you to be heard in this way, Mr. Rithet, we will have every one else asking the same.

Mr. Ward.—Well the reason, Mr. Chairman, that we wished to speak was because we understood this Commission was for the sifting of all facts, and if they simply sit there and arrogate to themselves——

Mr. WILMOT.—What is that, sir? If you say *arrogate* I will request you to withdraw it.

Mr. WARD.—On request, I will withdraw it—but (impressively), I do not think the evidence is being taken impartially.

Mr. WILMOT.—Pardon me, sir, I must call you to order; as Chairman I call you to order.

Mr. WARD.—Well, sir, I bow to your decision, but it is the first Commission ever I have attended under any Government where the Chairman acted in so extraordinary a manner and where matters were not represented by counsel.

Mr. WILMOT.—That is beside the question.

Mr. ARMSTRONG.—Well, Mr. Ward, I must tell you that most of the evidence is now taken, we have examined some 70 witnesses in New Westminster, and I think if counsel was to be allowed it should have been done there.

Mr. WARD.—But we have not had an opportunity of going before the Commission.

Mr. WILMOT.—Well, I think if Mr. Rithet wishes to ask this question we will allow it in this one case, but on condition that none other comes up.

Mr. HIGGINS.—I object to that ruling, Mr. Chairman.

Mr. WILMOT.—Well, if you object to my ruling I will withdraw my ruling, and I will now rule that the question may not be put.

Mr. HIGGINS.—I will ask for a vote on that point.

Mr. ARMSTRONG.—Well, gentlemen, I think you are all wrong in thinking these questions should be allowed; in a court, no one in the audience is permitted to get up and ask questions of a witness who is under examination; it is absurd; no one but practitioners are allowed to ask questions and they have to do it in a proper manner. I would suggest that Mr. Rithet should hand up any question to me for the Chairman that he desires to put and it will be put properly through the Chair.

Mr. RITHET.—Excuse me, but I consider that you are all wrong. A Commission of this kind is entirely different to a court; a good deal of latitude is allowed and greater scope in any Commission of this kind than in any court.

Mr. ARMSTRONG.—Certainly, Mr. Rithet, but we cannot allow these questions to be put by counsel.

Mr. WILMOT.—I think if Mr. Rithet had gone to Mr. Spencer and asked him any question on matters that had occurred it would be quite right, but to come as counsel, I do not consider it is correct.

Mr. RITHET.—I am told even if I had handed it in to witness, that I would have been checked.

Mr. ARMSTRONG.—Who told you that?—A. Mr. Munn.

Mr. MUNN (from audience).—Yes; I have seen it in Westminster. I declare I have seen persons objected to because they handed in questions to the witness on the stand.

Mr. WILMOT.—I may say that such did occur in one case, but it was quite different to this. At the time objections were taken to hearing a man, he was questioning and making interruptions while the witness was speaking, and, of course, such could not be allowed. We must maintain order.

Mr. J. H. TODD (speaking from the audience).—Will the Commissioners allow me to say a word? I must say, in regard to the statement made by Mr. Spencer, that——

Mr. ARMSTRONG (interrupting).—You cannot be allowed to dispute any witness' statements.

Mr. WILMOT.—Mr. Todd can come on the stand, under oath, like any other person, but we will not hear him in any other way.

Mr. TODD (indignantly).—Well, we will retire, and not come back.

Mr. WARD (from audience).—Yes; we have rights, and we want them respected.

Mr. WILMOT.—Sit down; don't get excited.

Mr. WARD (scornfully).—We are not excited. We are not going to be sat upon by anybody. We have our rights, and we are going to be heard.

Mr. TODD.—If we are not heard, we can leave the room.

Mr. HIGGINS.—I will suggest that Mr. Rithet put his question through any of the Commissioners. You come and sit along side of either of us, Mr. Rithet or Mr. Ward, and put your questions.

Mr. RITHET.—No ; I will not put questions unless I can state them direct.

Mr. WILMOT to Mr. WINTER.—Mr. Secretary, you will take down those words from Mr. Rithet, and mine, in reply. He said he was not allowed to ask questions.

Mr. RITHET (emphatically).—I have not, sir ; I deny that.

Mr. WILMOT.—Why, certainly you did, and that is your impression of the whole matter : that you were not allowed to ask questions at all, whereas we offered you a mode of doing so, which you would not accept.

Mr. RITHET.—I did not say that I was not allowed to ask questions.

Mr. HIGGINS.—Oh, never mind. It is all right. Don't bother. I, for one, am willing that you should put your question. Mr. Rithet, do you wish to put the question ?

Mr. RITHET.—No, thank you, Mr. Higgins, I do not. I have nothing more to say.

Mr. WILMOT.—Well, if there is any other gentleman desirous of giving evidence, we will proceed with the examination of witnesses.

THOMAS BOGART, of Rock Bay, a native of England, eleven years in British Columbia, a fisherman, was duly sworn.

Mr. BOGART.—I have fished for Mr. Spencer seven seasons, and the nets we use there only enclose a little part of the river, and are only in the water about half an hour at a time. To my knowledge, in the seven years I have worked there, I have never seen the river closed to stop fish from going up. There was one season there was plenty of fish, and more were netted than required for the cannery, and we marked some, and we caught them the next year and the next year, and in the third year. We took little pieces off the tail, and could see them easily.

By Mr. Wilmot :

Q. Were fish that were marked larger or about the same size ?—A. Well, we could not tell ; they all were about the same size ; there seemed no difference.

Q. That was in three years in succession ?—A. Yes ; that is all I have got to say.

Q. What conclusion did you come to, that they were fish returned from the waters above ?—A. They must have returned from above, because they came in and must have got back from above.

Q. Then your impression is that a certain proportion of fish return ?—A. Yes.

Q. How many fish would be caught at one haul ?—A. Six, seven and eight thousand in a good run.

By Mr. Higgins :

Q. Do you know where these fish go to spawn in Nimkish River ?—A. I think they must go to the lakes at the head of the river.

Q. Were you ever up to the lake ?—A. Yes ; I have been up to the rapids ; I never was in the lake.

Q. Are there any artificial means to obstruct fish going up ?—A. No, sir ; I have seen little traps on each side, but there was always room for many to go up.

Q. How wide are these channels ?—A. Some five, some six, some nine hundred yards.

Q. Pretty swift water ?—A. Yes ; very hard to pull up.

By Mr. Wilmot :

Q. Did you ever see fish returning in any number ?—A. No, sir ; but we do not stop there ; we come back as soon as the fishing season is over.

By Mr. Higgins :

Q. Have you ever noticed what becomes of offal ?—A. Well, some floats away and some is eaten by fish.

Q. Are there plenty of dog-fish around there ?—A. Yes ; all kinds.

Q. Have you done any fishing in any other river ?—A. In the Fraser River one season.

By Mr. Wilmot:

Q. In a big or small run?—A. It was a big run that year.

Q. You say about offal; some floats away, and then does some remain on the shore?—A. No; it all floats away; I never saw any along the beach.

Q. How long have you fished there?—A. In '88, '89 and '90.

Q. Were any other fish brought to the cannery from places?—A. Yes; a few were brought over, but they did not amount to very much.

Q. Have you any idea why the decrease was so much greater there for some years?—A. I have no idea; I cannot tell.

Q. What time of the year do you commence to fish?—A. About the middle of June, 12th, 16th, and so on.

By Mr. Armstrong:

Q. You have heard what Mr. Spencer says in regard to nets, is all correct?—Yes; that is correct; it is 165 meshes in the middle and tapers off to the end.

By Mr. Wilmot:

Q. That is, you mean to say the wings and two ends of the net are narrower?—A. Yes; they are not so deep.

Q. And that forms a kind of bag does it not?—A. Yes; when you haul in on the lead lines.

By Mr. Armstrong:

Q. Are any other kind of fish caught there?—A. No; a few flounders, that is all.

By Mr. Wilmot:

Q. Any halibut?—A. No; not of any account; there is nobody fishing halibut there; it is too far from market; we have caught a few for ourselves.

Q. Have you ever fished with a gill-net?—A. We have tried it in day time and at night, but we never could catch any.

Q. What was the reason?—A. The fish see it; the water is as clear as June; I don't think there is any other way to catch fish there unless by seines.

Q. How far does the net go out in the river?—A. Well, we start and go out about half way, and then from there fetch the net ashore.

Q. And consequently it would take everything in front of it?—A. Yes, of course.

Q. And would the lead lines be on the bottom?—A. Yes; we fish from half tide up to a little near the flood.

Q. What is the height of tide there—the usual rise and fall?—A. About 16 feet—between 15 and 16 feet.

Q. How far does the tide go up the river?—A. About 3 miles—between 3 and 4 miles.

Q. What is the size of the river?—A. About 3 rods; in some places not so wide; some places not over one rod between the rocks; three rods is about the broadest where we fish.

Q. And on that three rods you take your net out half way?—A. Yes.

Q. Any times more than that?—A. No; just about half; we hardly ever go any farther; we have to go back to shore with the net or you lose your fish; they go out again.

Q. Is there any possibility of fishing with a gill-net up the river where you speak of?—A. I don't think so, sir; and then it is not very deep water, and you could not use your gill-net; it is all rocks and shallow water.

Mr. Higgins.—Do you ever see many dead fish in the river?—A. No, sir.

Mr. Wilmot.—Have you ever been up in the lake itself?—A. I have just been to the last rapid; I have not been in the lake.

Q. Then you do not know if there are any small streams running into the lake?—A. No: I don't know.

Mr. Wilmot.—That will do, sir; thank you.

ROBERT WARD, of the city of Victoria, British Columbia, a native of England, a merchant, doing business in Victoria, and resident of British Columbia since 1870, was duly sworn.

Mr. WILMOT.—Well, sir, have you anything to submit to the Commission.

Mr. WARD. — Well, I might state—the Commissioners might like to ask me questions?

Mr. WILMOT.—Well, we have a list of questions which we have asked witnesses; you have no statement to make?—A. I would prefer those questions being asked first.

Mr. WILMOT.—Well, your views on offal?—A. Perhaps I should state first of all that during my residence in the province I have been engaged most of the time, not directly but indirectly, in the fishing industry, and I may say since the commencement of the canning industry. The offal question: my experience, as far as it goes, has not shown me that it has had any bad effects on the water of the rivers; I speak of the Fraser River, because I am more intimately acquainted with the Fraser River than any other stream in the province. It has been my duty to visit the Fraser River both during the fishing season and out of season. It has been suggested that the offal might be profitably disposed of other than the manner in which it is thrown away at the present time; it has been suggested that it should be utilized at oil factories and converted into fish guano. I may state that this has been tried by a man of capital and a man of practical experience and knowledge, who after two seasons found that he was losing money very considerably by the operation. It was also tried as a venture to Great Britain, which is really the only available point for shipping it, and the result was absolute loss. I might state further that on account of its objectionable character as a manure, it is very difficult to obtain vessels to carry it. There was a shipment made from Victoria four or five years ago by one of the Hudson Bay vessels, and it arrived home in a very dilapidated and unsatisfactory condition, and that resulted in loss. The average price of such stuff in the old country is about £7 a ton, and the freight will probably amount to 50 or 60 shillings—I am speaking now on the lowest possible estimate for which such freight could be procured.

I would like to state with regard to the Blue Book, which was published last year upon the question of waste, which comes under the category of offal, that a great deal of irritation was experienced among the canners on seeing the illustrations which appeared showing the parts decapitated from the fish and stated to be absolute waste. I might state that my own personal experience during the time I have indicated, is that I have never seen the waste such as is alleged in this report, and in further corroboration of that, with regard to these numerous pieces (showing illustrations in Report Fisheries Department, 1890, p. 66-67), the tail pieces that are shown in the diagram—it was absolutely astonishing to myself on seeing it, for I have not only considerable experience in this country, but I also visit the old country, where I see the out-put on its arrival. I may state with respect to one very large establishment—a few years ago they complained that the complaint was made by buyers that there were too many tail pieces in the shipments. The obvious answer to that was that we could not find fish in British Columbia without tails. (Laughter.)

Mr. WILMOT, (jocularly). It has been proven here, sir, that you make half of the "tales" here. (Laughter.)

Mr. WARD (sarcastically)—Is that so? (Laughter.) (Continuing). My experience is only that of the Fraser River—I am not a practical canner. I might state that it has been alleged by the Department that I am a canner, and that the British Columbia Board of Trade—which originally asked for this Commission to hold enquiry—and rather a partial enquiry it is—that this Board was composed of canners. I have to put in a statement in rebutal of this sentiment. It was said it was largely composed of canners—now a glance at the first pages of the Annual Report of the British Columbia Board of Trade for 1891, which was printed, and a copy sent to the Department, will show that only some five or six of the membership are canners. I would like to put in another matter on this question of waste and it repeats much what I have already stated. According to the Report of Mr. Chairman, the canners think they were being wrongfully represented before the public, because of greed, voraciousness, etc., and which, I think, I can prove are altogether underserved. It is not in the interest of canners to

do as alleged in this report, and I may say I have had complaints from consumers in Great Britain that too many tail pieces appear. Of course, it will be obvious to the Commissioners, that heads and fins would not be merchantable if they were canned. I have seen offal thrown into the Fraser River in deep water, but I have never seen it after it has been thrown in. The current generally on the fishing grounds of the Fraser River is very rapid, and like everything else cast into that rapid stream, it is out of sight very quickly. Now, I do not know if the Commissioners would like to ask me questions about this offal?

Mr. WILMOT.—You say, Mr. Ward, that you are not a practical canner—you are indirectly engaged in the matter—what then is your special function?

Mr. WARD.—I am an agent for several canning companies carrying on business on the Fraser River and elsewhere.

Mr. WILMOT.—You are agent and practically don't know their working on the river?

Mr. WARD.—I am an agent, but I have many practical chances of observation and of seeing the work both in and out of season.

Mr. WILMOT.—Are you a voluntary agent or a paid agent?—A. I am a paid agent for three companies.

Q. Would you mention them?—A. Ewen & Co.; Bon Accord Fishery Co.; A. J. McLellan.

Q. Have you any interest in the canneries yourself?—A. I have not—I may say that my opinion is that the canning business is not a very favourable one, and I may say that I would not now accept the agency of a cannery. I have refused some lately. I have been offered agencies from time to time which I have refused—my chief reason for such refusal is that it is a very precarious business and has been for some time, and I would like to state that I have been reading evidence taken at Westminster and I have noticed that very numerous profits have been made by canners. I am on oath, and I state for the information of this Commission, that as far as I have seen, no evidence has been forthcoming to show how may canners have failed in this business—probably there is not more than one or two outside of the English Syndicate that are well to do. I have seen good men embark in that industry, and I have seen them retire as paupers—I will not mention names for personal reasons—but I know that in one case where thousands of pounds were in that industry embarked on the Fraser River and in a few years, not only the capital had gone but also some $30,000. During the last five years, seven canners have absolutely failed.

Q. And you are stating this as their agent?—A. As one intimately connected with the whole business.

Q. The purchase and sale of the article manufactured?—A. Yes; salmon is like any other article of manufacture—it fluctuates with supply and demand, and though in some seasons it has been profitable, I have known others in which it has not only been unprofitable, but absolute loss to pack it, and I would like to mention in corroboration of that fact, that at the time when the system in vogue on the Fraser River was practically an unlimited system of licenses—during the years 1883, 1884 and 1885—where as a matter of fact the canners should have procured as many cases of salmon as they pleased, they were deterred from pushing their business by the poor condition of the market and instead of packing, as they could,—eight canners in 1884 absolutely closed down altogether. In 1885, six of them closed down there from same reasons, and at that time also the system of licenses was practically unlimited. I might state that one argument in support of what I have stated in regard to the precarious character of the business is the result of the uncertainty of the regulations.

Mr. WILMOT.—I trust you will not consider that I am at all interrupting you, but as this is solely the question of offal, the question of licenses would bring the matter up on which you are speaking.

Mr. WARD.—Very good, sir; I am in your hands; only one question leads to another, I would prefer, perhaps, if you would question me.

By Mr. Wilmot:

Q. You say you are indirectly engaged with canneries, not directly?—A. Not directly.

Q. And you think you can give practical answers to these questions in regard to canneries?—A. Yes; most decidedly.

Q. Do you know how many fish may be taken during one run and taken to the cannery?—A. No; of course I cannot state exactly. I am not familiar with them.

Q. You know fish when you see them?—A. Yes; I know them very well.

Q. You know sockeye?—A. Yes; I am familiar with it.

Q. And what do you think the average size of sockeye would be?—A. About 8 pounds; they vary; I have seen them smaller at times.

Q. Have you an idea what number of cans would be made out of an 8-pound fish?—A. I believe four or five. I am speaking without the book, Mr. Chairman, I don't cut up fish. The cans when filled go up to 20 and 22 ounces.

Mr. WILMOT.—But it is a pound can.

Mr. WARD.—Yes; it is a pound can, but we always give more.

By Mr. Wilmot:

Q. And then the balance between the number of cans and the weight of the fish must be offal, would it not?—A. Yes; offal, blood, etc., but this tail piece is much too large in this diagram; it is not correct.

Q. Well, I will draw your attention to the Departmental Report for 1889. If you will take this book, sir, you will see that 14,789,856 cans of salmon were put up. Well, now, sir; if 5 pounds represents a salmon, that would take 2,957,971 salmon to put up that number of cans, and a good proportion of them must be offal?—A. Yes; a proportion of the whole would certainly be offal, that would be about $\frac{3}{8}$ of the whole would be offal, blood, etc.

Q. And 14,789,856 pounds of salmon canned would be how much gross weight of fish?—A. Well, it would be practically impossible to get at the exact figures. I have seen cans weigh 22 ounces; I have seen them weigh 24 ounces. I may safely say the cans always weigh more than a pound.

Q. Well, but in taking millions we need not take these odd ounces?—A. Well, but if you are taking millions of pounds these millions of ounces will run up to many pounds.

Q. Well, for argument's sake we will take the figures. In 1889 there were put up 14,789,856 one-pound cans, now——A. Pardon me, are you speaking of the Fraser River or the whole of British Columbia?

Q. We are taking the catch as laid down in the Departmental Report of 1889.—A. Well, if that applies to the whole of British Columbia, of course the quantity of the Fraser River would be a little more than half the aggregate.

Q. Yes; the reason I am asking you these questions is because I think these figures are put in by the Board of Trade; the Fraser River alone, and south to the American boundary, gave 14,789,856 cans; this would be, say, $\frac{5}{8}$ of the total weight of fish caught to produce that number of cans; then the total weight would be about 23,663,769 pounds, and as the difference, it is admitted, would be offal, that would leave 8,873,913 pounds of offal.—A. Well, I am not prepared to support or dispute such a statement as that, because I say the actual figures are impossible to obtain, first, on account of the overweight in the cans, and——

Q. But twice two are four, and so on your know.—A. Oh, yes, of course; but I am not prepared to say anything but that a very large quantity must have been thrown away.

Q. Now are these figures given an exaggeration?—A. An exaggeration? I said the exaggeration which I had reference to was this diagram, showing the way the canners were supposed to cut up their fish.

Q. But these statements by the figures?—A. Well, I think it quite possible the figures might be incorrect. I don't think you poorly paid officials always get the correct figures.

Q. Well, but these figures, I understand, are given the department by the Board of Trade themselves.—A. I don't think that (examining the returns in the report in question) all these are not the same as ours—certainly not.

By Mr. Wilmot:

Q. Well, but if the Blue Book is correctly taken from authentic documents sent in would it be an exaggeration to state that there were 14,789,856 cans put up in 1889?—A. I have already replied to that question.

Q. But is there an exaggeration there?—A. Yes, I think so, as I have pointed out, because there is not the actual waste as described in these illustrations (showing diagrams, pp. 66-7, report, Department of Fisheries, 1890).

Q. In your work as broker and agent, figures when added together are supposed to be correct, are they not?—A. Well, Mr. Chairman, excuse me; I think that a frivolous question.

Q. But I do not think so; these figures must be correct; you stated the weight of fish is about 8 pounds, and that about 4½ to 5 cans are made from each fish?—A. Yes; but I say it is simply impossible to account for it like that, with the varying weight of sockeye, and the varying weight of the cans; you will not find two cans to agree. I will say this, Mr. Chairman, that if every salmon that is caught weighs 8 pounds, and every salmon makes five cans, your figures are probably correct.

Q. That is all right, sir; some make up 7 pounds and make only four cans.—A. Yes; but the loss would not be so great as shown

Q. Then to the best of your knowledge the figures as shown are correct?—I have already replied to that same question, and if your stenographer will look back he will see I have replied.

Q. Oh, all right, sir, never mind; I think he has taken it down correctly. Now, Mr. Ward, you have here these statements, and which have been endorsed by almost every gentleman who has come before this Commission, that they are not incorrect, not exaggerated, and I must say that report was hurriedly written, and it was particularly in the fisheries interest as far as British Columbia was concerned.

Mr. Ward.—Mr. Chairman, are you giving evidence now?

Mr. Wilmot.—No, but I am simply stating that you must have been misled in stating that this Report was incorrect, exaggerated, etc.—now regarding the report of the British Columbia Board of Trade for 1891—as you have affixed your signature to that report I presume, that everything said in that report meets with your approval?—A. Yes, certainly.

Mr. Wilmot.—Then I suppose you mean to say that you approve of this sentence? (Reading from British Columbia Board of Trade Report for 1891.)

"The Minister while favourable to the suggestion, did not find it convenient to carry it out, but instructed Mr. Wilmot, who is connected with the Fisheries Department to visit the province and give his views upon the question. These latter were obtained during a visit of two days on the Fraser River and were duly communicated to the Minister in a report since published, and which owing to the few hours in which the observations were made, was consequently full of inaccuracies, exaggerations, and statements of a generally misleading character throughout, and was therefore of little practical value. The indulgence in gratuitious and insulting reference to our cannery proprietors is a marked and regrettable feature of Mr. Wilmot's report."

Well, sir; if any impartial gentleman will say that these statements are incorrect—are exaggerations?

Mr. Ward.—Well, I will say, Mr. Chairman that I am responsible for that report—I alone am responsible for that report, but Mr. Chairman, this was written upon your own report—I will read it, sir.

(Annual Report, Department of Fisheries, 1890, p. 67.)

"The question arises why should such a sacrifice of fish-food be allowed, to gratify the avarice of the packers and the fastidious taste of the wealthier class of consumers? Why not compel the canner to arrange his business so that this wanton waste of fish shall be largely diminished; to induce him to put up two classes of goods, equally suitable to the wants and means of the richer and poorer classes of consumers; or if this should be incompatible with the trade, why not convert this vast quantity of fish matter now thrown away as offal, into usefulness of some kind, in the way of oil, or fertilizer of some description?"

Now, sir ; I declare that paragraph to be positively misleading—and I may say, sir, in speaking up for the canners, that I have been one of the most persistent persons advocating this Commission and I would say that I am not doing it for personal ends at all, but for the benefit of the country.

Mr. Wilmot.—Well, perhaps I am getting beyond the decorous duty of a chairman, but as one representing the Department, I feel bound to tell you that my information was gleaned from people on the ground, and as I say—on p. 67 of the report referred to :—

"I may here at the beginning state that I learned from the general expressions given by all parties that no serious objections were raised to the working of the present regulations."

Mr. Ward.—I say, sir, that is an exaggeration.

Mr. Wilmot.—Excuse me, how could you say that was an exaggeration if you were not present ?

Mr. Ward.—Because, sir, I know that no one could gather information on a two days' visit down the Fraser River.

Mr. Wilmot.—I gathered sufficient information.

Mr. Ward.—Then sir, you go on to say in your report :—(p. 67).

"It will nevertheless be understood that, with an industry so extensively carried on as the salmon canning business is, on the Fraser River, it would be extraordinary indeed not to find some grumbling, especially among the more selfish and grasping persons engaged in the trade."

Mr. Wilmot.—Well, is there anything in that not correct ?

Mr. Ward.—Yes, I have been connected with this matter for years—am I a greedy, grasping, selfish person ?

Mr. Wilmot.—I do not know anything about that, sir.

Mr. Ward.—Then a little further on, you say :—

"It was universally admitted that this great natural product of the waters should be more carefully husbanded than hitherto, and that it was the bounden duty of the Fishery Department to surround the industry with such judicious regulations as would prevent this *extravagant* and *improvident* fishing——"

What extravagant and what improvident fishing, I would like to know ? And then, again, on the next page of your report, you go on to say :—

"If the number of boats were to be increased because the number of salmon were less in any one year, it would simply mean that the department would be aiding the *avaricious* fishermen to destroy, in a greater degree, the reduced stock of salmon entering the river, whilst if the desire is to husband this industry, the true plan would be to reduce the number of boats for the season in which there might be a reduced run of fish in the river."

"Aiding the *avaricious fisherman !*" I think, sir, it is most unfair to libel our good fishermen in that manner, and to abuse those who, to the credit of the community, have brought the salmon canning industry up to its present proportions.

Mr. Wilmot.—Regarding that paragraph you have just read, is that wrong on the part of a public officer who is interested in public affairs ?

Mr. Ward.—Well, sir, I certainly think it is wrong to a class of persons who, to the credit of this country, have built up the industry to its present condition. That is all I have to say at present.

Mr. Armstrong.—I was just going to say I would object to any further personalities.

Mr. Higgins.—Well, I think this recrimination between the witness and Chairman is not right. I never in my life saw a Chairman doing like this. It ought not to be done. No Chairman should enter into a wrangle with a witness. Mr. Armstrong and I had a conversation about this on the first morning we started, and we thought you should not lead a witness up to answer certain questions in a certain way.

(From audience.)—Hear, hear.

Mr. Wilmot.—Order, order, please.

Mr. Wilmot.—Well, Mr. Higgins, I may state that the question of offal was being discussed, and Mr. Ward stated that misleading statements were made as regards the amount of offal and the number of cans, and I merely asked Mr. Ward how it was so.

Mr. ARMSTRONG.—Well, are you going over the whole question again?

Mr. WILMOT.—No; we were simply finding out how correct these matters were. Now, to go on with the questions. Have you any idea if this offal can be made into any valuable product?

Mr. WARD.—No, sir.

Q. Do you believe it injurious to the river?—A. I believe it is not injurious.

Q. What is your belief as regards sanitary matters?—A. I think if it remains upon the shore it would be a nuisance and danger

Q. In the interest of canners and fishermen, would it not be advisable they should do away with it in some manner?—A. I don't understand your question, Mr. Chairman.

Mr. WILMOT.—The law says any one throwing offal in shall be liable to a fine.—A. I should say it is perfectly safe to throw it in deep water or in the channel of the river.

Q. Is it all thrown in the channel now?—A. Well, in some places I suppose it is not. If lodging on the banks of a slough, I would think it injurious to those who have to live near it.

Mr. WILMOT.—How about the limitation of nets; have you anything to say about them?

Mr. WARD.—I stated a short time since that in 1884, at a time when the system of licenses was practically unlimited, the number of cases packed on the Fraser River was 34,039 cases; that in consequence of depression in the markets generally there was no inducement to fish, either in 1884 or 1885, to the full extent of the canneries then existing. Eight canneries closed down in 1884, and six closed down in 1885. From the working of the system of licenses which has been in force during the last few years, I am satisfied that an unlimited system of licenses would not injure the river and would not lead to over-fishing, because I think, though fish are plentiful, which shows that there is no fear of over-fishing, at a time when there is no demand, or at any rate a poor demand for the product of the canneries, it would be impossible for any fairly well-equipped cannery to rely on less than twenty-five licenses, and even this would not be sufficient and often very inadequate owing to the variability of the run on the Fraser River.

By Mr. Wilmot:

Q. Then should it be unlimited to canners and fishermen?—A. If unlimited the river should be open to all.

Q. Whether a British subject or not?—A. Well, I had hardly thought of that; I think our fishermen went over to the Columbia River.

VOICE.—No.

Mr. WARD (continuing).—No? I would not care to express any opinion upon that, Mr. Chairman. I may say that licenses to fishermen are of no practical value unless there are canneries. What I mean is, if you do away with canneries only a very few fishermen indeed would be needed, because it would take very few to supply the local markets of British Columbia, and as for the freezing business, it is not of much account on the Fraser River.

Mr. WILMOT.—Q. And do you think that licenses should be given to all canneries erected?—A. Well, I do not see, Mr. Chairman, how you can prevent canneries being erected; I think those canners engaged in business should certainly have protection, but I know of no law which would prevent any one building canneries on any river in the province.

Q. How protect them, then?—A. Well, I would make the licenses unlimited, because people would soon go out of business if there was no money in it.

Q. What do you think of the close season?—A. I think the close season as at present arranged is very satisfactory, because it practically means that Sunday is kept for a day of rest, but it is absolutely necessary for fishermen to go out, say at 6 o'clock, so as to be prepared with the raw product on Monday morning.

Q. You say Sunday should be kept?—A. I do not say that I do believe in Sabbath desecration by any means, but the fishing industry is very peculiar; it only lasts for

some weeks, and every latitude should be allowed to permit those engaged in it to carry on business without loss. To make the close time any time after 6 o'clock on Sunday would be very bad.

Q. And you think it correct as now?—A. Yes; I think it correct.

Q. And you think it injurious to trade if extended to 12 o'clock?—A. Yes; I think so; as regards the desecration of the Sabbath, I always understood it was the seventh day; I take it you mean Sunday, Mr. Chairman?

Q. Yes; I mean Sunday.—A. Well, I may say there would be far more desecration upon the Fraser River, if Sunday was totally observed as a day of rest; the men around the fishing camps are men of all nationalities and addicted to drinking and rioting, etc., and there would only be more of it if the time was extended.

Q. Then you think all Sunday should not be observed?—A. Yes; for the reasons I have just stated.

Q. What do you think of an annual close season?—A. I think it quite right and as regards the dates practically agreed upon by the fishermen, I hardly carry them in my head, but——

Q. But you think it advisable to have a close season, and the one now in operation is correct?—A. You say "in operation"?

Q. Well, I was just thinking that there was no established close season, is there Mr. Inspector?

Mr. McNab (from audience).—No, sir; none at all.

Mr. Ward.—I would more readily defer to the experience and opinions of more practical canners on that subject than venture views of my own, but I might state that all the canners agreed upon this: That the fishing season should commence upon the 1st of March of each year, and that from the 1st March to the 25th August fishing to be allowed with not less than $5\frac{3}{4}$ inch mesh; from 25th August to 25th September, both days inclusive, fishing should be allowed with nets not less than 7-inch mesh, and from 25th September to 1st November, fishing should be allowed with nets not less than $5\frac{3}{4}$-inch mesh, and from 1st November to 1st March should be an absolute close season annually.

By Mr. Wilmot:

Q. Yes; well these are similar suggestions that have been made on previous occasions, so you are all unanimous on that point. Have you any opinion to give on the artificial breeding of fish?—A. No; I have none at all.

Q. Then on the proportion of licenses, should they be transferable?—A. I do not think there should be trafficking in licenses such as have been described; *bona fide* fishermen or canners should have them.

Q. Do you think there should be any discrimination in the price paid for a license?—A. No; I am of opinion that if a license fee is charged it should be uniform.

Q. Now, I think we have gone through all the questions put to witnesses, if you have anything further——A. Well, I was just going to suggest that in the opinion of some of us, seeing that the seat of Government is so far away, that an Advisory Board should be appointed by the Government similar to what prevails in the United States and so they could be well acquainted with all matters relating to the fisheries; we feel that from subordinate officers, poorly paid, the important duties cannot be carried out efficiently, and that is the main reason why we think an Advisory Board should be established.

Q. What number would you say for the Board?—A. I would say three or five, but I have not given any thought to that. I can assure the Commission that it is the unanimous wish of the canners who are engaged in this important industry to have the regulations placed upon a permanent basis, so that all engaged therein can make their calculations as to their operations for the season. I may state that for some time this has not been so, and such a state of things must cause those engaged to meet with loss, etc. We have many difficulties to contend with and especially with the matter of labour. It is difficult to obtain a class of white men such as is necessary in a cannery, because they will not come forward and offer themselves for the small wages for employment for such a short time; it is a fluctuating business and may terminate at any moment, especially if the run of fish are not satisfactory.

Q. Are you of the opinion that satisfactory regulations would maintain the run of fish?—A. Yes.

Q. Are you of opinion that over-fishing may injure a river?—A. I would say, yes, if proper restrictions were not made—if you allowed the fishing to be carried on by traps or other improper means of catching them; but I do not think anything like that is carried on on any of our rivers.

By Mr. Armstrong:

Q. Do you know if Mr. Spratt made any really good guano while he was working at it?—A. Yes; he made very good guano. It was analyzed by parties in the old country, who got very good results from it. I know as a fertilizer it was very strong.

Q. Was it through him it was shipped to England?—A. Yes. I may say, Mr. Commissioners, in regard to this guano, it is most hard to get the guano away, because vessels persistently refuse to take it. Mr. Rithet can tell you that he has had tons of it at a time which he has not been able to get away. Then the freight is very high, and you get some £7 a ton in the old country.

By Mr. Wilmot:

Q. Is that in its rough state?—A. No; this was in the prepared state.

By Mr. Armstrong:

Q. But when it was sent, did it arrive in good condition?—A. Well, no; not exactly. I may say it got mixed up on board the vessel with fish oil, etc., and it was in a bad state, but they got good results from it but a poor price.

Q. Have you heard of complaints of the effects of offal put in the river?—A. No. Well, I will say I have heard people at Ladner's Landing complain of the bad effects of the slough close by, but never knew that it was on account of the offal that was allowed to go into it.

Q. Have you ever been there in fishing season?—A. Oh, yes; hundreds of times.

Q. Have you ever seen anything there on the water?—A. No; it is sluggish water. There is a slough at the Bon Accord cannery, but I have never in my life seen anything of the kind.

By Mr. Higgins:

Q. Mr. Ward, how long have you been a close observer of fishing operations on the Fraser River?—A. Ever since 1871 or 1872.

Q. Have you been connected with the industry during that period?—A. Yes, I have.

Q. Then you would be in a position to give a pretty good idea as to the permanency of the fisheries. I think for a time there were no regulations for carrying on the fisheries, except what canners might have made themselves. Now, has there been a decrease of salmon on account of those conditions?—A. No. On the contrary, I think they have increased. In 1891 the pack shows it was say, 1,000 cases more than the year previous, and other years in the same way.

Q. Then you think fish are not decreasing?—A. Not decreasing; and I may say I quite think the close season is sufficient to protect the fish. The Chairman, if he had any idea of the multitudes that come up, he would not fear the diminution of fish in the river.

Mr. Wilmot.—We have heard the more fish are caught the better they will breed. (Laughter.) A. I am glad to hear it.

Mr. Higgins.—I would like to read a couple of extracts from Mr. Mowat's report, fisheries statements, 1890, pp. 173-4:—

"The run of fish on the Fraser River commenced nearly a month later than usual, and although very few canners had made preparations for a large pack they entertained fears of being unable to fill their orders, as the boats during the month of July, which is usually the best month for fishing, only averaged ten to twelve fish each per day. This continued until about the 10th of August, when the largest body of fish that is known to have ascended it for some years reached the river, raising the average catch per boat

from 300 to 500 fish per day. So sudden was this enormous run of fish that before canners had time to order their boat hands to stop fishing the canneries were overstocked, and in some instances fish had to be thrown away. This large run continued until the last of August, when the canners completed their packs, and it is safe to say that quite as many fish ascended the river as in 1889, except that the run did not last quite so long.

"On the Skeena River the run was exceedingly large. Canners used all the tins they had on hand, and only worked a portion of their boats, which averaged 500 to 700 fish per day. The Standard Packing Company, while packing their last 2,000 cases, kept their cannery supplied with four boats."

That is a correct statement of things in 1890, Mr. Ward.

Mr. Ward.—Well, no; not in my experience have I known of any quantity of fish thrown away; of course, sometimes when a few fish on the wharf get spoilt it might be necessary to throw them away; but not in any quantity, I am sure. I had not known of that report or I would have contradicted it.

Mr. Higgins.—Well, you think from statistics that fish are increasing; if I was giving evidence I would attribute it to the fish hatchery.

Mr. Ward.—Yes; but Mr. Mowat was connected with the fish hatchery, and of course would be more in a position to speak of that matter.

Mr. Ward.—Have you anything more, Mr. Chairman?

Mr. Wilmot.—Nothing more, sir.

Mr. Ward thereupon left the witness stand.

Mr. Higgins.—I would like, Mr. Chairman, that subpœnas be issued for the following gentlemen: A. W. Smith, M.P.P., A. J. McLellan, J. L. Raymond, Capt. J. Irvine and Hon. P. O'Reilly.

Mr. Wilmot.—Well, you must remember, gentlemen, the question of expenditure comes up in this; if this member of Parliament comes he will perhaps want some indemnity.

Mr. Armstrong—I should like Mr. Smith to be asked; I don't think the question of indemnity will be raised.

After a short informal discussion, during which several gentlemen present agreed to see the other gentlemen and ask them to attend and give evidence. A subpœna was issued for the attendance of His Honour Judge O'Reilly.

The Commission adjourned at 1 p.m., to resume at the same place at 2.30 p.m.

Afternoon Session.

Victoria, 3rd March, 1892.

The Commission was convened at 2.30 p.m.

Present; Mr. S. Wilmot, presiding; Mr. Sheriff Armstrong and Mr. Secretary Winter.

ROBERT PATTERSON RITHET, a native of Scotland, residing in British Columbia for 29 years, a merchant doing business in Victoria, was duly sworn.

Mr. Wilmot.—Now, sir, if you are desirous of submitting anything to the Commission in reference to this question of the fisheries of British Columbia?—A. I would prefer to be asked the usual questions.

Mr. Wilmot.—Well, the first on the list is the offal investigation—what have you to say in regard to that—its effects on the river—for sanitary purposes, etc.?

Mr. Rithet.—Would it not be better to locate me and my interests in the business more intimately to begin with?

Mr. Wilmot.—Yes.

Mr. Rithet.—I am interested directly and indirectly in this industry—I have been in business since 1876 as agent and owner. I have interests in the Delta, Laidlaw & Co., Wellington, and Harlock canneries on the Fraser River, and the Cascade on the Naas and Standard on the Skeena, and am also agent for Cunningham on the Skeena and a syndicate in Lowe Inlet.

By Mr. Wilmot :

Q. Does this apply to the English syndicate?—A. No. We have simply a local syndicate—we do not call in any outside capital.

Q. Then it is a combined business both on the Fraser River and Skeena—your position is then both owner and agent?—A. Yes sir ; with regard to the offal question—it has been frequently discussed and we have generally been guided by the information given us by practical men—that is the managers of the canneries, and we have seriously considered the question, both for our own interests and in the interests of every one else who would be likely to be effected. We would be only to glad if we could without very serious loss and inconvenience dispose of this offal in such a way as to make it neither injurious to fish life in the river or disagreeable to our neighbours. I have always been strongly of opinion that if it were possible to dispose of it by utilizing it in some way it ought to done, and when the Government said that it would have to be disposed of and the representations which were made were so strong in favour of making it an article of commerce instead of throwing it away, I considered that our canneries on the river should make efforts to dispose of it by utilizing it, and in consequence a fish oilery which was not working up to that time, was combined with our institutions to a certain extent, and we utilized it last summer.

Q. Is that the one opposite the Delta?—A. Just opposite the Delta—it is the only one on the river. The result I know sufficiently definitely now to say it is going to cost us a loss of between $2,000 and $3,000 for this season. We have disposed of the oil at the best price we could get, but we have not yet succeeded in finding a market for the guano, and I am able over a written correspondence with our people in England to ship some of it there and I do not know of any other out-let for it, except the Sandwich Islands, where they are using a good deal of fertilizer, but though I have sent samples of it down there, and from the oilery at Nellersloo, for which we are also agents, and where they extract herring oil and dry the refuse for fertilizer, I find the Sandwich Islanders prefer the bone dust manure to the fish guano, even at half price—I may say, and in consequence I am come to a complete standstill to dispose of the product. If we have to put it in——

Q. Where is Nellersloo?—A. In Alaska. I may say last summer we sent a ship to Nellersloo and we loaded her with herring oil and guano, and though the cargo of oil and guano arrived in England in good order and quite up to samples that had been sent, as yet there is no sale for it and very little hope of disposing of it. I have also discussed very thoroughly with my own people the disposal—assuming that the oilery is a failure—what is next best to be done, and I think I am willing to agree with them that if the offal is deposited in the current off-shore it would cease to be objectionable to anybody to any extent. Last season, I made a point of going through all the canneries just as they were closing, and I was very gratified to find that even the canneries which were not disposing of the offal as our canneries were, were very sweet and clean and that there were no signs of the offal remaining after a day or two, and that no injurious effects were caused, and up to the present time I do not think it has had any injurious effect. In the last two years, as far as our experience has gone, the supply of fish has been greater than it has ever been—of course, this next year we expect an off-year and hardly look for any great run this year.

Q. Then every effort has been put forth to utilize this offal, and it has been unsuccessful?—A. Yes.

Q. And you have had but one year's experience?—A. Yes ; that is all.

Q. And you are satisfied that nothing further could be done to overcome this great difficulty between the people and the canners?—A. Well, it perhaps could be done with greater expenditure of capital. We were the only one on the river who kept up to the regulations. I don't think the Government will indemnify us.

Mr. Wilmot.—Perhaps the Government will put it to your credit as regards past years. (Laughter.)

Mr. Armstrong.—Mr. Rithet, do you know the law has been in force for many years prohibiting you from casting in this offal?

Mr. Rithet.—Well, but if we get the Government to pass an Order in Council, it will override that law.

Mr. Armstrong.—Well, you will find that it is not included in their power.

Mr. Wilmot.—I do not think there has ever been an Order in Council freeing the river from the operations of that law. There may be, but I do not know of them.

Mr. Rithet.—Well, there must be an Order in Council, I think, because we were told the regulations would be enforced as heretofore.

Mr. Armstrong.—Well, you may consult your legal advisers; there is the Act. If any one complains, you can be fined every time.

By Mr. Wilmot:

Q. Then if a fine is inflicted, it is then the privilege of the Minister to remit that fine; but as regards this disposal of offal, you have found it unprofitable?—A. Yes; and I combine the experience of others, Mr. Spratt and others. It is not a new thing.

Q. We have, during the sittings of this Commission, drawn attention to an article appearing in the *Colonist* lately on this very question. Samples were sent down from here to the Ontario Department of Agriculture, and they make these conclusions. Samples were sent first, and Professor James is rather an eminent scientist and has analyzed these samples, and winds up with these conclusions:—

Mr. Rithet.—Does he refer to fish offal or to some others, because dog-fish oil is a separate matter and is worked here successfully?

Mr. Wilmot.—Oh, no. These were samples of fish offal sent down from here. Now, these are his conclusions:—

"From the consideration of the whole question, I am of the opinion that the manufacture of the refuse into fertilizer is strongly to be recommended, because:

"1st. It will thus utilize a bye-product that otherwise is a total loss.

"2nd. It will prevent the waters from being contaminated.

"3rd. Its proper management must tend towards a more healthful surrounding.

"4th. Its return to the soils of the farm will partly off-set the waste of our cities by sewerage carried to the lakes and rivers.

"5th. If properly handled it will pay well.

"From the great importance of this question to the health of the community, the welfare of the fishing industry and the progress of agriculture, I have endeavoured to reply at this length."

Mr. Rithet.—Well, it depends upon localities a great deal; we are handicapped with new soil, which is already very rich, and it does not require fertilizers. I would like to hand in a document on this matter.

By Mr. Wilmot:

Q. And then it is said to be worth about $34 in Ontario?—A. Yes; and it would cost us two cents a pound for freight, and my opinion is that it cannot be managed without a loss, and a very serious loss.

Q. Well, I merely bring it to your attention to show that it has been tried and samples sent and analyzed, and the Professor states emphatically that for the health of the community, etc., it might be preferred if manufactured into oil, etc.—A. Well, that may come in a future time, but at present I do not think it could be done.

Q. At the present time the Government is being importuned as to the effects of this offal in fouling the water, imparing the health of the community, etc., and the Government is naturally anxious to find out the facts.—A. Well, I am sure we will only be too happy to help if we only know how. I may mention that I have been up the river on the Harrison River to Lilloet, etc., and the offensiveness raised by offal is not to be mentioned with the effects of dead fish, etc.

Q. Yes; well while this matter is before the Board it is necessary to get all information; but to off-set that I may mention, Mr. Rithet, that the municipality at Delta say that it is only since canneries have been established that they have felt effects from sickness, etc., brought on by the quantity of offal going into the water and fouling it; they have had some sixteen cases of sickness and some deaths. I mention this to show you that the Government have the matter presented to them in different ways. And while some people say it has no effect, we have these people presenting petitions to the effect

that this refuse has created dysentery and typhoid fever, and its lodgment there was continually throwing up the microbes that produce the disease. These are their statements, and when these statements are made it is the duty of the Government to investigate the matter.—A. In reference to that, Mr. Chairman, I would say that the Delta Landing, during four or five years, has had a sort of boom; there are four or five times the people that were there, and there is no provision made for drainage. We have typhoid fever in Victoria and Nanaimo and other places, and none of these people can say that it has been caused by refuse from fish, etc., and I do not see how these people can say it has been caused by offal from fish. We know very well that typhoid appears in the mountains as well as everywhere else.

Q. Then you are of opinion that if it were to be thrown in mid-river you would accede to that demand?—A. I am quite willing to help to make arrangements or do anything to do away with these complaints and troubles, if possible.

Q. Then the fishermen complain that it goes down the river and passes out at Gurry Bush and gets into their nets, the heads and tails?—A. Well, if canneries were not there the fishermen would not be either; a complaint of that kind should be put on one side, because if canneries were not there the fishermen would not be wanted. I am sure, and I speak not only for myself, but brother cannerymen, that they will be only too glad to help meet the wishes of the Government, but they have interests as well as other people, and they feel they should be respected.

Q. Well, there is another difficulty; there are statutory enactments in all other parts of the Dominion against this practice, and if you are allowed to do it here others will say, why should we not, too?—A. Well, we contend here that the fish are quite different to what they are in the east.

Q. But both make offal, don't they?—A. Yes; but the conditions are quite different. I think the saw-dust is much worse.

Q. Well, that is one of the questions we have also on our list?—A. But we have experienced no diminution in the supply.

Q. Then you say that experiments with offal in making oil, has not been successful?—A. No; perhaps it might hereafter, but of that I don't know.

Q. What was the oil you made used for?—A. For lumbering and skidding purposes.

Q. Is much used for that purpose?—A. Yes; but a good deal of dog-fish oil. We get 35 cents for dog-fish, and 25 cents for offal oil.

Q. And from a sanitary point of view you think the deposition of offal non-injurious?—A. That is my opinion.

Q. Even if lodged along the shore?—A. I think it should be put in the current.

Q. And if along the shore it might get putrid?—A. Yes; if exposed to showers and sun. We never see any of it here. We get logs from the Fraser River and other things.

Q. But a log would not form any quantity of offal; offal would not float so easily. You think offal then not injurious; you think saw-dust quite injurious?—A. No; I do not say so. I have heard of that, but I know nothing about it.

Q. On the limitation of nets, what do you think of that question?—A. I think the canneries which employ a large amount of capital, that they should have licenses of their own; they should have at least 25 boats to each cannery.

Q. Twenty-five to sustain their industry?—A. Yes; 20 were not enough and it only forces us to go outside and adopt certain measures which I would rather not do. If we were allowed 25 boats, if necessary, we could go outside, but I think 25 should be given, and I would decidedly object to any one getting licenses but *bona fide* fishermen.

Q. Could you briefly state why 25 would be sufficient to run a cannery?—A. Yes; because the capacity of a cannery is about 1,000 cases a day, and if 25 boats catch an average of 100 or 150 fish it would be about sufficient; they catch from 100 to 200, or 300 sometimes.

By Mr. Wilmot:

Q. What is the average catch of a boat during the season, have you any idea?—A. No; not at all. I have no figures.

Q. 1,000 fish a day; how many cases would that cover?—A. Well, I have no evidence on that point from actual experience, but when we are getting over 100 to the boat we can run to the full capacity if we get twenty-five boats.

Q. How often a day would that boat run?—A. Twice a day; two shifts. I would not care to make any statement of the practical part of it, because I have not had much to do with it; we get our telegraphic account so many fish to the boat, &c.

Q. When you say twenty-five boats would be sufficient, what would you consider the average output from those twenty-five boats, about 15,000 cases?—A. Yes; with the exception of Mr. Ewen's cannery the capacity is about similar for all.

Q. Well, I notice from the returns from the Fraser River during the past year that the average from all the canneries would produce about 14,000 cases, taking them all the way through in 1890; the returns for 1891 are not in yet.—A. The returns of 1891 will not average over 7,000, I don't think, not on the Fraser River.

Q. Were the boats more than twenty-five to each cannery?—A. We used to get many fish out from Point Roberts.

Q. Yes; but there was some arrangement made with regard to an increase in boats; did you get any additional ones?—A. Well, no I don't think so; Mr. Laidlaw could tell you more about that.

Q. And they only produced 7,000 cases in 1891?—A. That is all.

Q. Are you of opinion that fishermen should all get licenses?—A. Yes; I do not see how that can be very well prevented.

Q. Every fisherman and British subject should get a license?—A. Yes; so long as he uses it himself.

Q. And with twenty-five boats to each cannery, would many fish be bought from fishermen at all?—It would depend upon the season; we have to make contracts beforehand, and if the season is too great and we get too many fish, we have to lay off our boats and take the outside fish.

Q. I might say to you that is one of the greatest complaints of the fishermen. They say with the present disposition of boats, whitemen all told, are only able to get about fifty licenses, and the consequence is they feel they are shut out of ordinary traffic which they feel entitled to, and if canneries got twenty-five boats they would think themselves shut out entirely from fishing operations. I merely mention it to show you. —A. Of course they have the same rights to advocate their interests as we do.

By Mr. Armstrong:

Q. Do you think each cannery should have the same number of licenses?—A. Yes; I think so, except Ewens', I think all the canneries are about the same.

Q. And that argument that has been put forth that it would be unfair to allow boats to new canneries; you forsake that, do you?—A. Well, we felt a few years ago that many of us would have to get out of it; there has been no profit in the business this year, and perhaps next year it will not be better, and many might have to give it up.

Q. And then you see we have other complaints that persons come here under inducements to fish, etc., and then cannot get licenses when they get here, and so with twenty-five licenses to canners there would be further ground for complaint, for less outside fishermen would be employed; I merely mention this to you.—A. Of course we realize the position we would be in if we could not get licenses; we would probably be obliged to shut up; that is the experience on the Columbia River, where they have had to meet high demands of fishermen; many canneries have had to shut up.

Q. Then you think every British subject and every fisherman should have a license?—A.—Yes; and I think Indians should have licenses as well as other people

Mr. Armstrong.—Oh, yes; if they provide themselves with a boat and net—certainly they should get licenses.

By Mr. Wilmot:

Q.—You are connected with companies engaged on Northern rivers as well as on the Fraser River—on those rivers, where engaged, do you use seine fishing as well as drifting?—A.—Well, I could scarcely answer that question—I think we had to out at sea—they don't fish in the river but they do outside.

Q. Are you interested in Gardner Inlet or Nimkish?—A. No.

Q. Are you in Lowe's Inlet—I believe seining is carried on there wholly?—A. I think so—I am not an owner there—I am but an agent.

Q. And seining is not allowed on Naas?—A. No; I think not.

Q. You have no practical experience of the result of fishing with a seine and drift net?—A. None.

Q. From what you know would you consider it advisable to allow seine fishing in mouths of rivers—Fraser, Skeena, and Naas?—A. I would rather not express an opinion, because I scarcely know the difference between the two nets.

Q. What about the close season?—A. Well, as far as I am concerned—I speak as a canneryman—I think it would make but little difference from July——

Q. I mean especially the weekly close season?—A. Oh, the weekly season—I do not think it makes any difference—I think it is all right—if made to 12 o'clock I think the fishermen would go out anyway.

Q. Well, the same question comes in—you see statutory enactments in the eastern provinces all provide for the Sunday being kept and if not kept, here——.—A. It is a different country, sir, altogether—the habits of fish are different and the inhabitants of the country are different too.

Q. Well, you see, Mr. Rithet, the Government has to make these laws and to meet the demands from other provinces.—A. Well, I understand it simply as a matter of expediency—the sailing ship has to keep her sails up during Sunday and the fireman to keep his fire going, &c.

Q. And you think it unjust if not working on Sunday?—A. Yes; I think the men would be longer idle and would not like it.

Q. Was not the close time before on Sunday night?—A. Yes; it was—but I do not think it acted as well as now.

Q. Then there are people who think Sunday should be kept?—A. Well, that is a matter of conscience. I think the present close season is all right.

Q. And the annual close season?—A. Well, we don't care about that as long as we are allowed to fish for sockeyes—I don't think it would matter.

Q. I think the previous gentleman spoke of a close season from 1st November to 1st March? I think he said with a 7 inch mesh from 25th September to 1st November—then why vary from 25th September to 1st November?—A. That is the cohoe run—we packed them for some time but did not find them profitable.

Q. And from 1st March to 25th August you fish—you care nothing about a close season for any fish after that?—A. No.

Q. Well, I think that would meet the public view, but you ask another close season between 25th September and 1st November?—A. Well, that is a run of small fish—we canned these at one time but it did not pay.

Q. What are your views in regard to the hatchery?—A. Well, my opinion is it cannot be a disadvantage and it must be an advantage in keeping up the supply.

Q. What are your views in regard to fees on licenses—should all be alike? (Mr. Higgins arrived and took his seat at the Board)—A. I think so—on a river like the Fraser River where there is the benefit of a hatchery the fees are properly higher than on other rivers where the Government go to no expense in maintaining a hatchery.

Q. Then you consider the hatchery has been of benefit to the extent of between $5 and $20?—A. Well, I think our license fees were increased on that account.

Q. Anything else, sir? We have gone over last year—A. Well, I have read evidence given at New Westminster and I draw the conclusion that very erroneous ideas of people prevail there, and also on the part of the Commissioners as to profits derived from the canning business.

Mr. Wilmot.—I do not think there was any such evidence given us there?

Mr. Armstrong.—There was a statement that cannerymen could make $75,000 by putting up a cannery for $5,000 but that was a mistake of the press.—A. I was just going to say that this industry is one that requires the most careful attention and nursing. I think of late years 8 and 10 canneries have gone to the wall. The Alaska canneries have had great effect upon us—this last year I do not think the profits will be anything at all—in fact, a perfect loss.

Mr. Higgins.—I would just like to read this extract from the Departmental Report for 1890, bearing on this subject—(Fisheries Statements, 1890, p. 175.) Mr. Thomas Mowat, then Inspector of Fisheries for this province, says :—

"The canners have reaped a rich harvest during the last four years, If their own statements in this respect can be relied upon, each cannery made from $15,000 to $75,000 per season ; still, with all these advantages, they do not appear satisfied, because the regulations framed by the Department did not allow them to fish just as they wished, regardless of future results."

Q. Had you seen that before, Mr. Rithet, do you agree with it ?—A. Oh, yes ; I have seen it often, and I saw it in evidence given before, and I wish to correct it, because I am in a position both as a canner and agent to know the truth in that regard, and I am safe in saying too that you have had no man before you who could say that any employee never got his pay—if any loss it has been borne by the owners.

Q. Are fish paid for—when ?—A. At the end of the season. I may say that I have often advanced money to pay off the man's debts.

Mr. Armstrong.—Yes, I must say Chinamen and others always get their money.

Mr. Rithet.—There is another question I would wish to speak of namely, Chinese labour—if we had not Chinamen here we could not carry on business at all—it is impossible to get white labour for the short time we require them, and the work besides is such that it does not require able bodied men to do it—Chinamen do it very well and women and boys, and I do not see how the canners should be blamed for employing Chinese labour.

Mr. Wilmot.—The statement made to us is that though 100 or more are employed in a cannery only 8 or 10 of them would be Whites and the rest Indians and Chinamen. —A. Yes, that is quite right. I may say we have tried to do with boys and I know that Mr. Spencer went to great trouble one year to employ white labour but he found it could not be carried out and had to give it up.

Q. Is not all the labour arrangements done through one Boss Chinaman ?—A. Yes, of late years.

Q. What price is paid the Chinaman boss per case ?—A. About 35 cents, I think it is—but the Chinese labour is but a small matter—we have the tins and putting them up, etc., I think 35 cents is about the price, we have to pay a little more up north.

Q. Is there anything else you would wish to state ?—A. No, I think that is about all.

Mr. Armstrong.—Thank you, sir—we are much obliged to you.

The following copy of a memorandum on the canning and fishing industries was handed in by Mr. Rithet at the conclusion of his evidence.

To the Members of the Canners' Association.

Gentlemen,—Your Committee to whom was referred at the meeting of your Association, held on the 13th inst., the Order in Council respecting the disposal of fish offal, approved 7th November, 1890, and also the Order of same date, prohibiting the use of seines for the purpose of catching salmon, and existing regulations generally, beg to report thereon as follows :—

That before taking up the special subjects referred to in the Order in Council, your Committee wish to call attention to some of the other existing regulations, which, in the opinion of your Committee, are framed in such a manner as to seriously jeopardise the successful continuance of the business of salmon canning in this province—a business which is already among the most important, and one which, under judicious treatment by the Government, should continue to hold a prominent place in its material development, alike profitable to those who have embarked their capital, the Province and the Dominion.

Limit of Licenses, Fraser River.

The most prominent among the regulations referred to, is the construction placed by the Hon. the Minister of Marine and Fisheries, upon the recommendations of the canners

through the Board of Trade, as to restricting the number of fishing licenses on the Fraser River, which, in the opinion of your Committee, is not only unjust to those who through many difficulties, and under great disadvantages, have for many years, during the early history of the industry, followed the business ; but also to those who have more recently invested their capital therein, inasmuch as the number of boats allowed each existing cannery has been reduced to provide licenses for newly established canneries.

That, in the opinion of your Committee, the attention of the Hon. the Minister should be specially drawn to the serious phase of the question of limiting the number of licenses for canneries upon the basis above referred to, which is contrary to the intention of your Association, and the Board of Trade, in recommending that licenses on the Fraser River should be limited in number. If the present system is to be continued, many, if not all the existing canneries will have so few boats that they will be unable to continue their business with profit. It was never intended that the licenses allowed existing canneries, which had already invested large capital in the business, were to be withdrawn from them and given to new canneries, and we feel certain that, on the Minister's attention being called to this great injustice, he will at once admit it and provide a remedy. Your Committee advise that this Association recommend that the Hon. the Minister be requested to fix a minimum number of boats to which each cannery can be reduced, and ask that this be not less than twenty-five (25) for existing canneries.

The number of licenses allotted to the fishermen, for the fresh fish market and freezing establishments is out of proportion, and in excess of actual requirements for the purposes for which they are allotted, and unless the fish taken by them can be sold to the canneries, there would be no market for them. Freezing establishments, at present allowed ten licenses each, do not use for their own purposes more than the catch of three or four boats during the sockeye run, and the excess is sold to the canneries, thus showing that while canners do not get as many licenses as are necessary for their business, more licenses are allotted to outside fishermen and freezing establishments which are used simply for speculative purposes. It must be admitted that canners, who have thousands of dollars at stake, and give employment to 300 or 400 people in each cannery during the fishing season, are not fairly treated when they are made to pay more for their licenses than the individual fishermen, who are allowed to dispose of their fish for the same purpose, and whose entire outfit does not exceed $100 to $200.

Seines.

Your Committee advise that the Hon. the Minister be recommended to exempt all localities from the order prohibiting the use of seines, where fishing can be only prosecuted by means of seines.

The localities where seines are at present in use are the following, viz. :

Alert Bay, Smith's Inlet, Lowe Inlet,

and in which localities seines have always been used, without (so far as experience has shown) injury to the supply, as can be readily verified by the quantities packed during the last few years, which compare favourably with the quantity packed during the first years of packing canned salmon.

There are many other bays and inlets in which fishing can be done only by means of seines, and which should also be exempted from the restriction, upon it being shown to the fishery inspector that the fish supply would not be injured thereby.

License Fees.

Your Committee are of the opinion that it would be more just if a uniform license fee on the Fraser River of $20 per boat per year was charged to all who were allowed to fish, whether for the purpose of canning, or for sale as fresh salmon, instead of the present mode of discriminating against canners. Your Committee recommend that no change should be made in the license fee charged to northern canneries.

Close Time.

It is strongly recommended that no change be made in the regulation of last year regarding this, viz.: from 6 a. m. Saturday to 6 p. m. Sunday.

Salmon Offal.

Your Committee has very carefully considered the report from the Hon. the Minister of Marine and Fisheries of the 25th October, 1890, and also an extract from a report by S. Wilmot, Esq., upon which is based the order of the Hon. the Privy Council of the 7th of November, 1890, to the effect that the provision in the Fisheries Act relating to the disposal of fish offal shall be enforced in future.

It is therein stated that an enquiry made by direction of the Hon. the Minister of Marine and Fisheries into the manner in which fishing in the Fraser River was prosecuted, elicited the facts that "an enormous quantity of valuable fish food which by economical measures could be utilized, was wasted by the prevalent and improvident practice of using for canning purposes only a certain portion of the salmon caught and throwing the remainder away," and in support of which Mr. Wilmot's report is appended.

The Committee cannot but express surprise at this statement. As a matter of fact, all the portions of salmon, with the exception of the heads, tails, entrails and offal, are preserved in cans, and no portions valuable as food, which can be economically used, are wasted. The canners are anxious and interested to prepare for market as much of the fish as possible; but in doing so, special care must be observed in regard to maintaining the highest quality, in order to compete with the Columbia River and other American salmon-packing localities on this coast.

For many years after the commencement of the industry in British Columbia, the quality of our product was considered by the English buyers, who are the principal customers, inferior to that of our neighbours shipped from this coast, but by the exercise of extreme care in the careful selection and packing of the fish, the canners have the satisfaction of knowing that it now compares favourably with any of the salmon packed on this coast.

We are not prepared to dispute, nor do we doubt that it is quite possible—and probable—that in some countries, the heads, tails, entrails, and offal, might be utilized for various purposes, such as fertilizers, or oil might be extracted therefrom, but in this new country, where labour is difficult to obtain, and very expensive, such enterprises cannot yet be carried on with profit. There is no local demand for fertilizers, our lands being only recently cultivated, and so rich that fertilizers would prove detrimental, by encouraging a growth which is already considered too rank. Several attempts have been made in this province to utilize fish offal for making manures and oil for export, and although the needful capital and experience have been supplied, they have invariably resulted in failure because the prices obtainable left a serious loss, and the business had to be abandoned.

The committee, therefore, repeat that no portions of the fish which can be profitably used are wasted, and regret to find that Mr. Wilmot should commit himself to such a sweeping statement about this, as that contained in his report to the hon. the minister, without having had an opportunity of forming a more correct opinion than could be formed during his short and hurried visit last year.

With reference to the injurious results which must ensue to the salmon industry from a continuance of the throwing of offal into the river, the committee observe:—

That the practice of throwing the offal into the river has been followed since the commencement of salmon preserving in the province—more than 15 years ago—and no injurious effects upon the supply of fish can be observed. The supply of salmon, if anything (see official returns), has been more abundant during the last two years than in previous years, and the reports from the interior spawning grounds, tend to confirm the assertion that fish are as plentiful as ever.

It may also be stated as a fact, that myriads of scavenger fish frequent the rivers in which salmon fishing is prosecuted, and are observed at each cannery greedily

devouring the offal (with the exception of the heads and tails) and in a few hours after offal is deposited in the water, scarcely any trace of it can be detected, and it is further claimed by fishermen and others acquainted with the habits of salmon of the Pacific waters, that a very large proportion of the salmon which pass up the rivers and reach the spawning grounds, do not return to the sea, and thus the whole fish, instead of the waste parts, which are not utilized for canning, become offal, and a greater cause of pollution of the water than the practice complained of.

After careful consideration, it is the opinion of the committee that the suspension during last year of the provision of the law relating to the disposal of fish offal, made on the strength of representations of the provincial secretary and the canners, was nothing more than according justice to one of the most important industries in the province, and since then no good grounds have been shown why the suspension should not be continued and if the question were placed before the public for endorsement, our opinion is, suspension of the restriction would be approved of.

The Hon. the Minister of Marine and Fisheries states that the Act "provides an inexpensive and comparatively easy mode of compliance with this requirement of the law, by providing that such offal may be buried ashore beyond high water mark, or dropped into perforated boxes under the stage heads or wharves in such manner as to prevent them from being washed into the stream."

The Committee observe in regard to this, that the first mode is impracticable, and were the circumstances known, such a statement would not have been made, for the reason that, in regard to the Fraser River, the lands along the tidal waters—and within miles of the canneries, are below the level of high water mark, and in order to exclude water it is necessary to resort to dyking; and in regard to the northern rivers, the banks are rocky, and few places could be found where excavations or pits could be made at reasonable cost.

As to perforated boxes—the plan, which was tried two years ago, has many objections, principally on sanitary grounds, as after a time the deposit becomes so vast that it is not fully covered by water, and the decomposing of so much matter becomes so offensive and unwholesome, that dwellings in the vicinity are not habitable.

The Committee cannot do otherwise than conclude that the Hon. the Minister of Marine and Fisheries, will, upon proper representations being made, order that the regulations above referred to, shall not be enforced, and are disposed to hope that, in imposing restrictions upon this industry, care will be taken not to make them of such a nature as to cause the industry to be hampered to such an extent as would place those engaged in the business in the waters of this province at a disadvantage in competing with canneries following the same business on this coast in the rivers and waters of the United States, where the greatest freedom from all regulations of a restrictive nature is allowed.

The Committee infer from the arguments of the Hon. the Minister of Marine and Fisheries, and the Superintendent, that they assume that the habits of the salmon of these waters are similar to those of the salmon of the Atlantic rivers, and draw wrong conclusions in consequence.

It is, however, claimed by all those who have considered the matter on this coast, that the habits are entirely different, as the rivers which they frequent are longer, greater in volume of water, and lower in temperature, all important influences, we respectfully submit, on the habits of the salmon.

From the imperfect knowledge shown by the statements now under consideration, your Committee think that the Department should appoint a board of resident commissioners who would study the habits of the salmon frequenting the rivers of this coast, and acquire accurate and reliable information for the guidance of the Department, in order that no unnecessary or oppressive regulations may be imposed, while due care may be taken to prevent the exhaustion of the supply of salmon.

Addendum.

The Committee append an article from the "Oregonian," dated 1st February, headed "Salmon Legislation," which was brought under their notice after they had

completed the report now submitted. In it are several points of interest and to which the attention of the Hon. the Minister of Marine and Fisheries should be directed.

Regarding the pollution of rivers, reference is made to the practice of depositing saw-dust, which is condemned, and concerning which legislation is recommended, but action in regard to *Fish Offal which is deposited in the Columbia River*, is not suggested.

The nationality of fishermen is another important matter, to which the attention of the Hon. the Minister of Marine and Fisheries should be particularly directed.

Imperfect knowledge of the habits of salmon of this coast (to which allusion is made in the accompanying report) apparently is not peculiar to this province, as may be gathered from a perusal of the enquiry reported in the extract attached. The most diverse opinions are expressed by fish experts, as to the habits of salmon, so much so, that the joint committee from the Oregon and Washington Legislatures decided that the United States Fish Commissioner should be asked to acquire accurate information regarding the habits of salmon in the Columbia River, and which supports the recommendation of your committee in regard to the appointment of a board of commissioners in this province for the same purpose.

In conclusion, the recommendations of your committee in the foregoing, stated briefly, are as follows :—

Licenses.

That on the Fraser River, not less than twenty-five boats shall be allotted to each cannery now in operation ; that the fees on the Fraser River shall be uniform, viz.: $20 for each boat engaged in fishing, without reference to the disposal of salmon ; and that for northern localities, the fees shall be as heretofore, viz.: $5 for each boat. Close time to be continued from 6 a.m. Saturday to 6 p.m. Sunday.

Seines.

That the restrictions as to the use of seines shall not be universal, certain waters to be exempted.

Offal.

That the suspension of regulation as to the disposal of offal shall be continued.

Commission.

That a board of fishery commissioners, resident in the province, shall be appointed by the Department of Marine and Fisheries.

All of which is respectfully submitted.

R. P. RITHET,
M. T. JOHNSTON,
For Selves and Committee.

Victoria, 4th February, 1891.

SALMON LEGISLATION.

(Extract from Portland "Oregonian.")

Further Testimony before the Joint Committee. Protection to Small Fish. Piscatorial Experts Disagree on the Question of Forbidding the Capture of Salmon Under Eight Pounds in Weight.

During the forenoon session of the Joint Committee on Fisheries at the Portland hotel yesterday, quite a number of interesting and instructive facts were learned regarding the traits and mode of living of the Columbia River salmon, particularly the chinook, steelhead and blueback species.

State Senator Luce acted as chairman, and Senator Fulton served in the capacity of examiner.

L. T. Barin, an expert on salmon, was first called upon, and stated that his experience covered a period of thirty years.

Not a Protectionist.

"I am not particularly opposed to catching the small salmon," he said, "even though they may be chinook, for the reason that the smaller species are almost invariably males and although not full grown, perform the functions of grown salmon, and die in the vicinity of the spawning grounds.

"In my opinion the scarcity of females is due to the fact that the latter do not mature so rapidly as males, and die before growing to any great size. Some two years ago, I offered a reward of $20 for every female of the smaller species, and only found one weighing about nine and one-half pounds. I firmly believe that these small salmon are prematurely matured, and the difference in color can only be accounted for by simply pointing to the trout, whose colour changes according to its years. The chinook salmon do not return to the sea after spawning unless the latter process occur very close to salt water. After making their way up the river for hundreds of miles without food it is impossible for them to return, and in consequence they die off by thousands. The small ones come back dead the same as the large, and it is for this reason that I do not favour forbidding the capture of salmon under eight pounds. *Laws should be passed preventing the dumping of sawdust in our streams and also the use of racks.* The fishery laws of Oregon and Washington should be similar, and the season should not commence until April 10th or 15th."

Concerning Fish Nets.

J. W. Cook informed the Committee that he had had a great deal of practical experience in catching and handling Columbia River salmon of all varieties.

"Meshes not less than eight and one-half inches should be permitted by law," said Mr. Cook, "and although many fishermen may not agree with me on this point, I am sure they would catch more fish in weight and numbers than a smaller mesh. The Legislature should pass an appropriation of $20,000 for the first year and $10,000 for ten years thereafter, for the purpose of establishing hatcheries. The product at present is about 2,500,000, and with proper hatcheries on both sides of the river this supply could be greatly increased, to the benefit of all. In my opinion salmon do return to sea, but in the deeper channels of the river. To be sure, thousands get so far up stream that they die before reaching the sea, but they doubtless attempt the return trip. There certainly should be a closed season, and net fishing should be prohibited in Clackamas River."

Do salmon return seaward?

Alexander N. Sutton, secretary of the Fishermen's Union at Astoria, related briefly his observations made during his career as a professional fisherman.

"There should be a law," said he, "protecting the young salmon. There are certainly more males hatched than females, and it is on this account we find so few of the latter. The small fish should be left to return, and according to the very highest authorities they undoubtedly do return twice in four years. The salmon will live ordinarily seven years, and the average weight at four years is about twenty-four pounds. Now the heavier salmon must certainly be older, and hence my theory of their return from the spawning ground to the sea. Many die from exhaustion in consequence of 600 or 700 miles travel, but a large number of them live in holes and pools until the first rains have come.

"The small salmon should be protected. They certainly can do no harm by being allowed to remain in the stream, and if caught are of little or no value to the state. The rivers are being cleaned out to an alarming extent of late, and especially since the introduction of wheels. They are placed in the vicinity of the spawning grounds and very few fish escape them. The law in Washington and Oregon should be the same in this matter, for the reason that if one state only imposes a penalty for catching small fish, the fishermen will, from business motives, seek the opposite side.

"I am opposed to traps for a great many reasons, but principally because I consider them dangerous to life and property."

Afternoon Session.

Upon the suggestion of the majority of the committee, and for the purpose of economizing time, the afternoon session was devoted strictly to the more important points on which information was required. Those who testified, therefore, were limited to a mere recital of such as came directly under their notice.

Frank M. Warren stated that during all of his eleven years' experience on the Columbia River, he had never seen or heard of a chinook salmon, or those of the so-called hybrid species, returning to the sea after spawning. They invariably lingered in the vicinity of the headwaters until they died.

"I was informed by the Japanese minister during his recent visit to this country," said Mr. Warren, "that in all the large rivers in Japan the salmon are known to ascend and die shortly after spawning, and it is the same here. By preventing the catching of salmon under eight pounds in weight the legislatures of Oregon and Washington would simply render valueless $250,000 worth of property for the following reason :—

"The yearly gains from the smaller fish—blueback and steelhead—amount to $80,000 for the Cascades ; $50,000 for the Dalles, and $75,000 for the Lower Cascades. By allowing them to go up the river we accomplish nothing, as they are all males, and die without attempting to return. I believe in allowing men to fish during the open season, without regard to the size or weight of anything they may catch."

No harm to capture them.

B. A. Seabury did not think it would be any harm to capture the small fish, simply because he did not consider them chinook. They were lighter in colour, of a different shape, and on the whole were quite a different species. He believed they returned to the sea after spawning, although he had never caught very many in the Columbia on the down trip.

James Williams thought that a certain percentage of the salmon returned to the ocean. He had frequently seen and caught them drifting down the Columbia, but more especially in Alaskan rivers. He admitted that thousands of them die, but he attributed this to old age, disease and encounters with other varieties of fish. Mr. Williams was particularly displeased with the immense quantities of sawdust deposited in the rivers.

Opinion of Fish Commissioners.

Fish Commissioners F. C. Reed, of Oregon, and James Crawford, of Washington, entertained similar views on the fish question. They had never seen a live chinook returning, and had never discovered a female among all the small salmon coming under their notice.

Mr. Reed explained that at present there was a law in Oregon prohibiting the dumping of sawdust below the Willamette falls or Columbia Cascades, but he had never been able to enforce it. Both commissioners strongly advocated appropriations from both legislatures for the purpose of establishing hatcheries capable of turning out 20,000,000 annually. They also advocated concurrent jurisdiction on the Columbia, and recommended that the open season in both states be made the same.

After examining a model of the fish traps now in use, the committee went into executive session for the purpose of agreeing to a set of laws, acceptable to both states.

Result of the Inquiry.

After considering all the testimony, the committee from the Oregon legislature decided to recommend the passage of laws substantially the same as those at present in force in Washington with a few minor changes. The joint committee will recommend that the owners of fish nets, or pound traps, be required to lift the tunnels and close the entrance to hearts, during the weekly close time, and the passage of a law prohibiting the dumping of sawdust in the Columbia or its tributaries at any time or at any

place. There will also be recommended the passage of a law prohibiting any one from fishing in the waters of either state, unless he be a citizen of the United States and a resident of the state in which he intends engaging in business, for at least six months. Also prohibiting the catching of sturgeon during the months of January, February and March. Congress will also be memorialized to establish a hatchery either on the Columbia or one of its tributaries—the Sunkie River preferred.

The United States fish commissioner will be asked to acquire accurate information regarding the habits of the salmon in the Columbia. Persons engaged in the fishing industry in Oregon and Washington are anxious to determine whether or not the salmon do really return to salt water, and if so, do they return a second time to the rivers. These facts must first be determined before legislation can be passed protecting what is generally supposed to be young chinook.

ALEXANDER JAMES McLELLAN, a native of Prince Edward Island, in British Columbia for sixteen years, a resident of Victoria, B.C., a salmon cannery proprietor, was duly sworn.

By Mr. Wilmot:

Q. Well now, Mr. McLellan, are you desirous of giving any statement in regard to the matter before us, the fisheries of the province, individual rivers, or anything of that kind?—A. Well, personally I am not acquainted with any rivers except the Naas, which is very different, on account of location, etc., from all other rivers. I may say I have never asked the Government for anything or heard of any complaint going to the Government concerning the fisheries of the Naas River; that is the most northern river.

Q. How far up from here?—A. About 640 miles, I think.

Q. How large a river is it at the mouth, or the lowest where the limit of fishing shall be?—A. Oh, only about a quarter of a mile wide where the limit is.

Q. How far does the tide go above that?—A. About three miles.

Q. What description of fishing is carried on there?—A. All gill-nets, drifting.

Q. And you drift how far out in the sea?—A. About 12 miles.

Q. What number of canneries have you there?—A. Three canneries; I have had 43 licenses every year.

Q. How many has the adjoining cannery to you, the Cascade?—A. I don't know how many.

Q. Do you know how many the British Columbia cannery has?—A. I don't know.

Q. You don't know, then, the gross number of boats on the river?—A. I suppose about 80 or 90, as near as I can recollect.

By Mr. Armstrong:

Q. Is the capacity of other canneries about the same as yours?—A. No; they are not the same. I built the first cannery there, and I built a large one, and went in for 12,000 cases. Then the river is not like this; the fish are more regular. We never get more than fifty to the boat at any time; but they are more regular.

By Mr. Wilmot:

Q. Then would the other two canneries be equal to your one?—A. Oh, more than that; they have about 30 boats apiece; I don't know exactly.

Q. Are there lakes up at the head of that river?—A. Yes; a long way up.

Q. How far from the river boundary?—A. About 35 miles, I think.

Q. And how far is it from the British Columbia cannery across the mouth of the river to you?—A. The British Columbia cannery is about six miles up from the mouth of the river, and I think the mouth of the river proper about two miles wide.

Q. Then the fishing is carried on along from the limit laid down away down about 12 miles?—A. About 12 miles.

By Mr. Armstrong:

Q. Into the ocean?—A. Oh, no; from the limit down.

By Mr. Wilmot:

Q. Can you get as many licenses as you want?—A. I don't know; I was never refused. I just asked for 43 boats, and if I could not get them I would have to turn the key in my cannery; that would be all.

Q. It takes the whole 43 to supply your wants?—A. Yes, sir; there are no other people on the river wanting licenses and the Indians cannot afford to buy a net and it lasts only the one year and they cannot afford to buy it, and consequently we have to get nets and licenses for them; then the Indians refused to pay any license fee and they came to me and were going to have a great council, and to stop trouble I paid the license fees out of my own pocket.

Q. Do you enter the licenses in your own name or in the names of Indians?—A. Well, you see they would not give the licenses to Indians; the licenses are entered in my own name.

Q. And do Indians get licenses beyond that?—A. No; none.

Q. And is the same system pursued by other canneries there?—A. The same system; I think so; all get licenses in their own name.

Q. Then you have a privilege over other rivers where they only get 20 licenses?—A. Well, it might be possible; but there are so many fishermen on the Fraser River they can easily get up to 50 or 60 boats, but we cannot on the Naas; there are no white people there.

Q. How could they get 50 or 60?—A. Well, if the canneries get 20 licenses, and then when there are many other licenses they go to the canneries and so the canneries have the privilege of buying many more than 25; on the Naas we have not. There is no population there; nothing but a few Indians.

By Mr. Armstrong:

Q. And who do you employ as fishermen?—A. Indians; and if I employ whitemen I have to take them from here.

By Mr. Higgins:

Q. Is there any settlement on the river?—A. No; there may be one or two; there is no agricultural land, and no people except Indians and missionaries.

By Mr. Wilmot:

Q. Then as to the Sunday close season, is it kept up there?—A. It is kept obediently by the Indians.

Q. And the whitemen?—A. Well, as far as I am concerned I keep the Sunday. I close my store on Saturday night and it is not open until Monday morning, but there is one privilege I would ask of the Commissioners. They extended the time from six on Saturday evening until six Monday morning—now we fish only on tides—we have six and a half hours on and six and a half off, and I do not see why the fishery guardian who comes up there could not allow us to fish the tide out on Saturday night and then on Monday morning the tide might not be fit for fishing on until late in the day, and we have many men on wages and it means a great loss to us.

Q. Well, but the close season is from 6 a.m. Saturday to 6 a.m. Sunday. The weekly close seasen is the same throughout all the province. Mr. McNab can you give us any information?

Mr. McNab.—Yes; there is only one close season throughout the province, but there have been several changes. It was changed last from 6 o'clock Saturday night to 6 o'clock Monday morning to 6 o'clock Saturday morning to 6 o'clock Sunday evening.

Mr. Wilmot.—I think Mr. McNab is right. I think the old close season did so read, but the canners made application to have it changed to 6 o'clock Sunday night.

By Mr. Armstrong:

Q. Well, would the present close season suit you?—A. Well, I would prefer if it was made in a way moveable on account of the tides.

By Mr. Wilmot:

Q. Do the Indians work on Sunday?—A. No; they do not, and I do not work on Sunday myself—we don't want them to work, they go to church and are very good and obedient people.

Q. Then even if the close season stands as at present—from 6 a.m. Saturday to 6 p.m. Sunday night, the Indians would not work?—A. No; we do not want them to, but we would like to commence at 3 o'clock Monday morning if the tide was favourable. I want to leave thirty-six hours clear. You see we fish at low water slack and if it don't come right on Saturday the Indians will knock off at ten o'clock on Saturday morning and then perhaps it will not be right until ten or eleven o'clock on Monday morning and so all that time is lost. A moveable time would suit us better.

By Mr. Armstrong:

Q. Do you fish when the tide is going out or coming in?—A. Well, we fish both going out and coming in—we fish six and a half hours and then knock off, I want to say that the lower camp, when the tide starts in, will catch 150 or 200 fish to the boat, and then at the upper camp some hours after, they will catch 150 again to the boat and so on, showing that the fish are making a steady progress up the river; and there is no danger of hurting the fish by the nets as we can only fish at one time for six and a half hours.

Q. You use ordinary drift nets? How many meshes deep do you use?—A. About thirty.

Q. Would the leads go to the bottom?—A. They might up river at low water but not at the mouth of the river.

By Mr. Wilmot:

Q. And then when the "lead" lines are on the bottom that would be the same as a seine would it not?—A. Well, it might be—that would only be up the river at low water.

Q. How wide would it be at that point?—A. About three-fourths of a mile.

Q. Do Indians fish there at all?—A. Not for the canneries, but they do for their own use.

Q. Do sockeyes, humpbacks and cohoes frequent that river?—A. Yes.

Q. But you only use sockeyes?—A. I put up some cohoes too, and some spring salmon.

Q. Are they white and red?—A. Yes.

Q. What proportion?—A. About one in six generally.

Q. What do you do with the white ones?—A. Give them to the Indians generally—I salted some one year and sent to Montreal but they didn't pay for the freight.

Q. What do you think as regards the quality?—A. I think they are just as good—just as rich and good in every way, but they will not suit the fastidious taste of the public.

Q. When do they frequent that river?—A. About 1st June.

Q. Do you know of them going up in September?—A. I have been informed there was such a thing, but I do not know.

Q. Yet for canning purposes they are no use?—A. No use for canning but equally as good for food.

Q. And you throw them away?—A. No—we give them to Indians—sometimes we salt them.

Q. What is the average size of spring salmon?—A. About twenty pounds—sometimes they go to fifty, seventy or eighty pounds.

Q. Could you forward a seventy or eighty pound salmon next year, if requested?—A. Yes; I think so—last year we had one that when cut up for canning weighed seventy-three pounds.

Q. Could you pack up one to send like that; I may say there is a collection being made, and it would be most desirable to get one like that for the collection?—A. We would be most happy to do it.

Q. Very well, if you will do so, I will be very much obliged. What is the average of sockeye in your river?—A. About 8 or 9 pounds; it takes about 10 to a case.

Q. Are there many humpbacks come up there?—A. Yes; most unfortunately they are neary all humpbacks.

Q. You make no use of humpbacks?—A. No use whatever.

Q. Do Indians use them?—A. Yes, altogether; they dry better, and are not so oily.

Q. What about cohoes?—A. Well, we don't use them. We have canned some and sent them to Europe; but they don't want them any more.

Q. What is your opinion as to the salmon going up the Naas; do all die, or do some return?—A. Well, I don't know of that; I never saw any returning.

Q. Were you ever there when they would be returning—in September or October? A. No.

Q. Then you don't know if they return or not?—A. I don't know.

Q. You have heard that fish after spawning get lean, lank and worn from exertions and exhaustion?—A. I have heard so.

Q. Well, an opinion seems to prevail that fish go up and spawn and then die, and I wish to find out if this is so.

By Mr. Higgins:

Q. You never saw any returning?—A. No.

Q. Have you been far up the Naas River?—A. Yes, some way; but not far. I may say that there is a gentleman who lives up the river, the Rev. Mr. McKay, a missionary belonging to the English church, a fine gentleman, and he has been studying the fish up there and he tells me that in the month of April, when the ice would break up often there were thousands and thousands of ducks called spoon-bills, and often he has gone with his gun and has taken as many as 100 young salmon from the stomach of one duck, and he made a calculation that these ducks destroy at least 100,000 young salmon every day.

By Mr. Wilmot:

Q. But if you were told that young salmon were never there at that time what would you think?—A. Well, that is what he told me.

Q. And are there not other fish in those waters?—A. Nothing but trout.

Q. Is it a large lake?—A. Yes, a pretty large lake.

Q. I think you must dispossess your mind that young salmon would be at that place in that time of the year, in April. There might be young salmon five or six inches long there at that time; but not small ones—not small enough for a duck to swallow.—A. I may be wrong in the month; but I know he said that whenever he put his foot on a log the little fish would fly away in great numbers, and I think it is a question about which something must be done. We have no hatcheries; we never asked for any, and I know if that is true there must be a great many fish destroyed.

Q. Is your river decreasing in fish, do you think?—A. No; not at all. Only last year we had so many humpbacks, but we could not use them.

By Mr. Armstrong:

Q. Do you know if there are many of those ducks there?—A. Well, you know how they are in many places up river—thousands of them.

Q. You could not trap them any way?—A. Well, no. When I considered the question over, I thought with the Rev. Mr. McKay, that it was a very serious thing indeed that those young salmon should be destroyed, and we all think that the ducks eat up a great many young salmon—they go there regularly every morning and evening where the fish have spawned and eat the eggs—when the ducks were killed in hundreds and in all of them there were many numbers of those young fish and in one case as many as 100, and I am speaking of this in all seriousness—I think it a most important matter and something should be done. The reverend gentleman thought perhaps if bushes could be placed along the shore—something to get the ducks to fly in other directions, it might help matters.

By Mr. Wilmot :

Q. Well, I may state for your information and that of your reverend friend—a great many persons make a mistake in telling what are young salmon. Young salmon have the small adipose fins on the back. If they have not they are not salmon. A characteristic of the salmon the whole world over is they have a second dorsal fin on the back and if they have not they are not salmon.—A. Well, we will investigate it.

Q. How often do humpbacks come in the river?—A. Well, about every fifth year—they were very plentiful the year I bought the cannery.

By Mr. Higgins :

Q. And do they come in great numbers and then disappear?—A. Yes, some days they will be in great numbers.

Q. And you do not use them?—A. No, not at all.

Q. Have you had any "short" years?—A. Only this year, the year before we put up 12,500 cases.

Q. And to what do you attribute that?—A. Well, there were so many humpbacks we could not get them—it was not for scarcity of fish.

Q. How many cases did you put up?—A. 5,400.

Q. And do you think fish are decreasing up that river?—A. No.

Q. You get several hundreds of humpbacks in your net—what do you do with them?—A. Let them drop out in the water again—they are no use.

By Mr. Wilmot :

Q. And you think the humpbacks getting in the net prevent the sockeyes from getting in?—A. Yes, the humpbacks occupy the attention of the fishermen so much they get sick of them—last year their nets all slimed up and we swore, I am afraid, more than we should have done.

Q. And do I understand that you would get as many sockeyes as you do humpbacks?—A. Oh, no ; the sockeyes are not nearly so plentiful—we get several hundreds of humpbacks to the boat but we do not get as many sockeyes—the humpbacks come in great numbers—they fill the small streams up almost solid.

By Mr. Armstrong :

Q. In a season when sockeye are plentiful do you catch many humpbacks?—A. No, not at all—the year I went there the sockeye were very plentiful—they went as many as 300 to the boat.

By Mr. Wilmot :

Q. You had 43 boats out fishing—would they average 600 or 700 humpbacks per day?—A. Oh, no ; not that—about 300 I would say.

Q. Then some 12,000 humpbacks would be thrown away?—A. Yes, they were no use—the Indians took ashore all they wanted to for their own use.

Q. Would the time in which you were catching this average of 400 humpbacks—would the same be going on with the other canneries?—A. About the same.

Q. So you see that would make the enormous sum of 56,500 humpbacks thrown away daily—and they come only in the fifth year—now do you think in the fifth year from now you will have as large a crop?—A. I do—I think they will be larger.

Q. And humpbacks, so far as your business is concerned, are useless and are not fit food for man to eat?—A. Quite useless ; they are good when first in the rivers ; then there is no hump on the back and they look much like sockeye salmon, but afterwards they get lean, slim, miserable concerns that would turn a man disgusted from the very look of them.

Q. Are you aware that all these fish with a hump are male fish, or have they all humps?—A. I cannot say that.

Q. It is said by many that the humpback is the male fish—the hump growing on the male fish after he is in the river. What do you do with your offal?—A. Well, it goes down; we are a long way from the river. We bring the fish round and clean them in Naas Basin and the offal is thrown into the sea.

Q. What is the height of tide there?—A. 22 feet.

Q. Then it runs largely up on banks then, does it?—A. Yes, sir.

Q. Will not the offal be brought back on the beach again?—A. No, sir; it all goes away.

Q. What is your idea with regard to fees payable for licenses, as you do your work on the Naas, should fees be equal throughout?—A. I think that $5 is enough on Naas River when $20 is the rate on the Fraser River.

Q. Why?—A. Well, they have many privileges which we have not, such as a hatchery and the hauling out of snags on the river. We never asked for hatcheries or for hauling out snags, our river is higher and if we take labour up we have to pay their way up and down.

Q. How about competition then on the Fraser River?—A. Well, we give high wages; it is $40 and $45 to men, and women make from $1, $1.50 to $2 a day. We take whitemen from here and have to pay their fare both ways.

(Mr. Higgins here withdrew in order to attend to his other duties as Speaker of the Legislature.)

By Mr. Wilmot:

Q. Have you any special matter you wish to lay before the Board, do you know anything about the deep-sea fisheries? Are any carried on from Naas? Any cod, halibut, etc.?—A. There is halibut, I know; on my wharf we caught a halibut that weighed 140 pounds. Then there are plenty of beautiful sea-trout from one to three pounds; the Indians catch many of them.

Q. These sea-trout, do they go up river to spawn?—A. I think so.

Q. So you see, the little fish the reverend gentleman spoke of, may be little trout. Do you see any other fish eat the offal, etc.?—A. No, except the dog-fish; we see some of them.

Q. Are the suckers very plentiful here, do you see them in your river?—A. No.

By Mr. Armstrong:

Q. You say the first year you went up you caught an average of 300 to the boat?—A. Yes.

Q. You have been up there 5 years, since then have you caught as many to the boat?—A. Oh, yes; some years, but what I wanted to explain was that the Naas River fish are very regular; we averaged 300 the first year and then we would not get more than 50 to the boat, but the next year that average was 200; it was steady right along; we take down the average of each boat every day.

By Mr. Wilmot:

Q. And how many years have you been there?—A. Four years.

Q. I see in 1889 you packed 4,539 cases, and in 1890 you are credited with 6,703 cases, but previous to 1889 there is no record?—A. No, sir; that is not so, you are on the wrong line somewhere.

Q. You are A. J. McLellan; that is the name under which you pack?—A. Yes, sir.

Q. Oh, yes; I see (reading from British Columbia Board of Trade report, 1891, p. 54) in 1888 it was 12,318 cases, and in 1889, 10,039, and in 1890, 12,110 cases; what did you pack last year?—A. 5,480 cases.

Q. How in regard to "off" and "on" years?—A. Well, you have it there (referring to report).

Q. And you have had three good years and one poor one, and that you attribute to the run of humpbacks?—A. Yes, sir.

Q. Well, I see the Cascade Packing Co., in 1889, caught 4,539 cases, and in 1890, 6,793; the statement made by others then, that there is two "off" years and two "on" years, does not operate there?—A. Not to my knowledge. I have been informed by

the Rev. Mr. Green, who has been two years on Naas, that salmon run very regularly except when there is a heavy run of humpbacks; that the Indians have told him so; that for many years they will run the same year after year.

Q. This year then was an "off" year, brought about by humpbacks?—A. Yes.

Q. And the spring salmon you catch, are they about alike in numbers?—A. No; they are not; they were not as plentiful last year as the last two years.

Q. The humpbacks do not interfere with them?—A. No.

Q. Then there may be an "off" year for them?—A. It may be possible.

Q. I think you stated ten fish made a case?—A. Yes, ten.

Q. Well, sir, have you anything else? We have heard your information with pleasure and profit.—A. I was just going to say about the offal throughout the Dominion of Canada; in my own experience on the Atlantic Coast I do not know of any offal there that would apply to the Pacific Coast; they use it on land entirely and there is no offal to speak of.

Q. But there are other provinces than Prince Edward Island, Nova Scotia and New Brunswick?—A. Oh, yes; but I have been in New Brunswick, too.

Q. Were you ever on Winter River or Dunk River?—A. Yes, I have been there.

Q. Were there any salmon there then?—A. No, not at all.

Q. Well, there are plenty of salmon there now?—A. Well, they must have done it with the hatchery then.

Q. No; the hatchery is not now running; I think you must have forgotten about the salmon being there when you were a boy?—A. Well, we might catch an odd one with a spear.

Q. Then there were fish there, but you did not see them?—A. Well, I don't think there were many there.

Q. Then the offal of codfish is not allowed to be thrown in, and in England and other places they have asked for restrictions that this offal shall not be thrown in, as it drives the fish from the fishing grounds. I merely mention that to show what is thought of it in other places. Well, if you have nothing further to say?—A. No; I don't think so.

At 4.40 p. m., the Chairman declared the Commission adjourned, to meet again at 10 a. m., on 4th March, 1892.

Victoria, B.C., 4th March, 1892.

Morning Session.

The Commission was convened in the Board of Trade Rooms at 10 a.m.

Present:—Mr. S. Wilmot, in the chair; Mr. Sheriff Armstrong, Mr. Secretary Winter, and a numerous audience.

Mr. Wilmot.—Before the commencement of regular proceedings, I would like to say that my attention has been called to a subject which I think it my duty to lay before the Board. I notice in the minutes of yesterday which have been made public in the press, but which will appear correctly in the official records, that remarks have fallen from my brother Commissioners which would lead the public to think there has been dissensions in the Commission and this Board, and if this report is not correct, I think it should be disputed.

Mr. Higgins.—Certainly not dissensions.

Mr. Wilmot, (reading from Victoria "Colonist," 4th March, 1892), as follows:

"Commissioner Higgins.—Mr. Chairman, I think it is about time that this conduct was stopped. It is not right for you to enter into a wrangle with the witnesses and thus lead people to say things in retort when they are under oath that they would not say in cooler moments. I never in my life saw a Commissioner do such a thing before and I don't like to see it in this Fishery Commission. You know that Mr. Armstrong and myself objected to your acting in this manner on the very first day of the enquiry in New Westminister."

This is rather a slur thrown not only upon the Commission but upon the Chairman particularly, and I would like to ask the Commissioners if there were such dissensions, and if not they should be contradicted, seeing that not only yesterday, but during all former days that we have been sitting there has been no dissension whatever among the Commissioners.

Mr. Higgins.—You are addressing me, Mr. Chairman, I presume—No ; I did not say, in the first place, "I never saw a Commission or Chairman act so"—I am not responsible for what the papers say—but I would say I had a conversation with Mr. Armstrong in regard to the way in which you were shaping the questions and we did not think it was the right way to lead witnesses to answer questions in certain ways—I did speak to Mr. Armstrong and he spoke to you and then you spoke to me about it.

Mr. Armstrong.—Well, as I understand—it was as these questions were bothering people and keeping them too long, but as to the manner in which the questions were put it was not exactly as given by you. I thought all questions relating to habits of fish, etc., should be given.

Mr. Wilmot.—Well, did you tell Mr. Higgins that I had also the right to ask questions relating to habits of fish, etc ?

Mr. Higgins.—Well, I know that Mr. Armstrong came to me and asked if I thought you were going too far.

Mr. Wilmot.—Well, I may say that the reason Mr. Wilmot has been asking more questions than his brother Commissioners was that when this Commission was asked for it was thought right to get all information possible in regard to the fisheries of British Columbia and the Pacific Coast, and Mr. Wilmot who has had much experience in fish cultural operations has possibly explained a good deal in putting his questions.

Mr. Higgins.—Well, I am not in accord with you in your way of putting these questions—I think you feel yourself on trial in regard to that report (Fisheries Report, 1890)—it is not so at all.

(Cries of hear, hear, and applause from the audience.)

Mr. Wilmot.—I would move that this meeting adjourn from this room—it is in every way a private room and I do not like the way we are carrying on our business. Persons should not applaud what is going on here. When we came from New Westminster we understood that a public room had been provided for our meetings.

Mr. Higgins.—This room has been hired, sir, for the purposes of the Fishery Commission ; it is as much a private room as anywhere in the city, but it is now a public room and is open to the public.

Mr. Armstrong.—For myself I would prefer not having any applause.

Mr. Higgins.—Well, it occurred at New Westminster.

Mr. Armstrong.—I don't think so, Mr. Higgins.

Mr. Higgins.—Well, I know it was stated that applause was made in New Westminster to remarks from my brother Commissioners.

Mr. Armstrong.—Well, I object to sit here ; it is a private room, and the public do not know where the Commission is being held ; we should not have a private room ; it has not been published in the newspapers except on one occasion, and the public do not know of it.

Mr. Higgins.—Well, Mr. Chairman, while we are arranging these preliminaries, I would like to send out for Mr. Dempster, a gentleman who has had great experience on the Skeena River. Mr. Smith is here from the Legislature.

Mr. Wilmot.—Shall we issue a subpœna for Mr. Dempster ?

Mr. Higgins.—Well, I think you objected to expense. I do not think it would be necessary to issue a subpœna for him. Mr. Johnston will be here in a little time ; Mr. Smith is here.

Mr. Armstrong.—Well, if your over-rule my objection, I object to sitting here in a private room.

Mr. Wilmot.—Your objection is recorded.

Mr. Armstrong.—Well, it is a great pity, I think, that we should sit here in a private room.

ALFRED W. SMITH, M.P.P., a native of England, in British Columbia for 31 years, a merchant and trader in the upper country, and a member of the Local Legislature, was duly sworn.

By Mr. Wilmot:

Q. Well, Mr. Smith, are you desirous of putting anything before this Commission?—A. Well, I would rather answer questions. I cannot say that I am an expert in fishing; but I have had a good deal of experience and observation in regard to salmon in the upper rivers.

Q. Would you prefer questions *re* habits of salmon?—A. Yes, sir.

Q. Do you specially refer to any one river?—A. The Fraser River and vicinity of Lillooet.

Q. Then your information would apply to the Fraser River at Lillooet particularly?—A. Yes.

Q. What salmon frequent Lillooet to your knowledge?—A. Well, early in spring, along in May and June, the large silvery salmon reach that point; they call them the spring salmon; they are not very numerous at that point. As to the mode of catching them, you can see the Indians, who are the principal ones who catch them, with hoop-nets; but owing to the nature of the river and the shore, you cannot see them (the fish), and it is difficult to catch them with hoop-nets while standing on the shore. These fish would weigh 12 to 16 pounds—possibly some larger and some smaller.

Q. They average from 12 to 16 pounds?—A. I should think they would. Then about the first of August, though seasons vary, some early and some late, the run is called the sockeye.

Q. Would you kindly go on with the spring salmon first; the one species first; do they spawn there?—A. Well, that I cannot tell you, because I have never seen them spawn.

Q. Can you describe any peculiarity of these fish—are some white and some red?—A. Not at that season of the year; I think it is later.

Q. Then the season you refer to is in August?—A. I was going to say the same species of fish come up in September. The same in every way, but a little larger on an average.

Q. Have you any knowledge as to the meat—is it red or white?—A. It is more of a pink. It is the same in the spring as in the fall—it is a pink salmon. As far as that is concerned there is another fish larger in size, but their flesh is always white. It will run from twenty to forty pounds.

By Mr. Higgins:

Q. In what part of the year do they come up?—A. Along in September—the latter part of September and October.

By Mr. Wilmot:

Q. And they are red-meated?—A. No; all white-meated.

Q. Do they resemble other fish?—A. In shape they do, but they are almost black—very dark. Their flesh is very oily and fat. They are not eaten by any one except by Indians, except on rare occasions.

Q. And what is your experience as to quality of white and red meat?—A. The white meat is very strong—not pleasant at all. I have eaten some of it.

Q. And that is not the case with red-meated fish?—A. No; they are very fine flavoured fish the red-meated ones and silvery ones; and the black fish run about the same time; the black ones a little later, if anything.

Q. What do you mean by "run?"—A. Well, when they pass by Lillooet.

Q. The reason I ask you, sir, that question is this: that all salmon change their colour after entering a river and the flesh becomes whiter, so it is possible they may be the same species. That would make these changes come?—A. They must change their shape and everything else then, sir; of course, their shape is the same as fish, but you can tell on sight of them they are white-meated salmon.

Q. And are you able to give us an opinion as to flavour and taste of these fish—you are speaking of them passing Lillooet?—A. Yes; that is where I am forming my opinion.

Q. You will pardon my questions because there is much divergence of opinion as regards this spring salmon—some white and some red. My brother Commissioner here thinks the taste of the white is very fine.

Mr. Higgins.—Yes; for private use I prefer it.—A. Well, the reasons, probably, because every one up the country don't like them is, possibly, for the reasons you state—that is, because it is approaching spawning time. I know I don't like them.

By Mr. Wilmot:

Q. Have you noticed what state the ovaries are in—as they pass there would they appear nearly ready for spawning?—A. Well, I don't know.

Q. Would the eggs be held together or loose?—A. They are held together.

Q. Then you see they are not ripe. Would you give us some description of the sockeye fish?—A. The 1st of August is about the average time of the sockeye passing Lillooet.

Q. What is their appearance at that time?—A. They vary a little. As a rule, they are all darkish coloured and a little silvery. Their back is rather darker than their bellies.

Q. You have seen them in the lower part of the river?—A. Yes, they are darker there than in the lower part.

Q. Where do these fish pass up to?—A. Oh, they go in every little stream and lake—they run in great abundance in the Fraser River—about a week after their first appearance the river is perfectly full of them—you can see their backs sticking out of the water and any one catching them can catch them with anything—the Indians generally use a small hoop-net—the run is very great and they have to be very careful in putting it in because they catch 10 or 15 in one net—I have known them to be pitch-forked out and in fact anything will catch them.

Q. How far is Lillooet up river?—A. Oh, nearly 200 miles—it is 100 miles above Yale.

Q. And are there difficulties in the way between the navigable portion of the river and Lillooet?—A. Well, there is a rapid current and rocks in many places.

Q. Don't they have to pass through cañons?—A. Yes, that is below Yale—when they get 12 or 14 miles above Yale they are through the worst places.

Q. And would that be the place where persons on the train would see the fish?—A. That would be below Yale—the railway don't pass our place.

Q. And they are red in flesh then?—A. Yes, they vary in size—the flesh is very red and they would weigh about 7 to 10 pounds, I should judge—something like that—I never was bright in weighing though.

Q. You spoke of eggs in white salmon—have you ever noticed eggs in sockeye? How do they appear?—A. About the same—the Indians gather them and dry them and they all hang together—they gather them in great quantities.

Q. Have the Indians or the inhabitants a preference for sockeye?—A. Yes, they have a preference for sockeye over all others, the Indians use the sockeye more than others—they seldom dry the other kinds of fish.

Q. Could you give the Commission an idea as to how the spring salmon and sockeye deposit their eggs?—A. I cannot—they always appear to be moving up in that section.

Q. Is there no opinion about it in your section?—A. Well, there is an opinion that they spawn in creeks and lakes—when they get to Lillooet there is quite a large lake and where they go and then there is another lake connected with it and they will still follow on up those creeks emptying into Anderson Lake as far as they can go and I think there is no doubt they do spawn there.

Q. Do you see many fish dead there?—A. Hundreds of thousands—you can see them anywhere—any one going up in September will see the shores lined with them and in any little stream that runs in they fill it perfectly full and die there.

Q. You cannot say whether they die after or before depositing their eggs?—A. No, I never examined that.

Q. The natural idea would be it was after from extreme prostration?—A. Yes, sir; I would suppose so.

Q. Do you see many of these fish passing down by Lillooet dead?—A. Yes, many of them.

Q. At what time?—A. About the end of September—many of them are much decayed.

Q. Any living fish there?—A. Oh, there are living fish right up to December; until the cold weather comes and kills them.

Q. Is it possible for any of these fish to pass down stream?—A. Well, some very likely do, but I never saw a salmon passing down stream head first.

Q. I may mention that is a peculiarity of salmon, that they never go down head first, they always go tail first?—A. Well, I may say I have seen them in places trying to head up, but not going generally head first.

Q. I may say, sir, that salmon generally always drop down stream in that way?—A. I may say that in those streams there the salmon get so thick they cannot move, but I never saw them trying to get back.

Q. But you have seen them in a wiggling state until frost came with heads up stream?—A. Yes, sir.

By Mr. Higgins:

Q. Dead fish?—A. Dead and living fish; you will see them in hundreds of thousands.

Q. Do you think these living fish have parted with their spawn before they got in that condition?—A. I think they have; they quite change their appearance; the sockeye gets half red and early in the season you will see them all colours with swollen white spots and other spots.

By Mr. Wilmot:

Q. From wounds passing up river?—A. Oh, yes; some you will see with fins gone and tails; that is not altogether, but late in the season you will see them in that way.

Q. I may say, sir, we have taken eggs from the Pacific Coast over to Ontario and they have the same experience in the fall, after the spawning season they lose parts of their tails and look a lean, lanky and miserable fish. So you see we have the same experience there as here. Have you anything further to state about the sockeye?—A. No; I don't think I have.

Q. Have you not another description of fish, the humpback?—A. Yes, sir; they are rather thinner and flatter, not so round as the sockeye, though about the same size, they are always white-meated.

Q. Their outward appearance is what?—A. A dark colour, not a silvery colour.

Q. And they pass up in great numbers?—A. Some seasons they are generally late; they come after the sockeye; that is after the best of the sockeye have gone up: of course some are always there, but I mean after the heavy run of sockeye have passed up, but when they come there is not so many of the sockeye.

Q. Are all humpbacks the same or are these humpbacks only males?—A. Well, I cannot tell you that; the Indians regard them as a different kind of fish. No one uses them at all except Indians, and they won't use them if they can get any other. The sockeye is the great fish for the Indian up there.

Q. And when do they pass up?—A. Along in September and up to when the cold weather comes in.

Q. And do you say they die in numbers?—A. No; I cannot say that. I never gave particular attention to them. They have a perfectly healthy appearance, but are of inferior character. No one uses them or eats them except the Indians.

Q. And you never noticed them dead in the river?—A. No; I have not noticed them.

Q. Do you know how far they go up?—A. I do not.

Q. And have you another fish that comes up, the cohoe-qualla?—A. Well, I do not know them by those names; they are not called by names, as down here. We have the large salmon, the spring salmon, then the sockeye, and the large black or white-meated salmon and the humpbacks.

Q. And have you no knowledge of the cohoe?—A. No, I cannot say I have; there is another fish something like the spring salmon that comes up; the colour is not quite so silvery; they are a dark fish; those, I suppose, are the ones called cohoes.

Q. Have you a fish called "dog salmon" there?—A. No, sir; I don't know it by that name.

By Mr. Armstrong:

Q. Do you notice much difference in the quantity of sockeye in different seasons going up?—A. There is a great difference; hardly any two seasons alike; they vary very much. Whenever we hear of a large run of fish in the Lower Fraser we have it up there; sometimes we have a run of small sockeye up there that get through the nets down here.

By Mr. Wilmot:

Q. There is one question, sir, in noticing the sockeye, many dead, etc., have you ever noticed marks on the bodies as if they had got through the nets?—A. Oh, yes; I have seen those marks where they have been in the meshes of the net.

Q. And have you seen soreness or a fungus growth on wounds of dead or dying fish?—A. Well, I never examined them so closely as that; whenever we go to get a fish, if we do not get a good one, we simply put it back and get another.

Mr. Wilmot.—I may say this fungus growth is very destructive to fish the world over.

By Mr. Armstrong:

Q. Do you notice many young fish going down the river?—A. Well, you cannot see in the main river, but in the small streams a great many go down.

By Mr. Wilmot:

Q. What do you mean by "young fish?"—A. Well, there are a great many go out of Seton Lake; the Indians catch great numbers of them.

Q. What length would they be?—A. Two and a half inches long, not over that; later in the season they get larger than that, but they are never so numerous.

Q. That is going out of Seton Lake?—A. Yes.

Q. Is Seton Lake surrounded by feeders running into it?—A. Yes; there are some small streams, but as a rule the streams would not harbour the fish until they got up to Anderson Lake and the waters beyond that.

Q. And Indians catch great numbers of them?—A. Yes.

By Mr. Armstrong:

Q. What do Indians do with them?—A. They dry them and eat them.

Q. Do they catch bigger ones later in the season?—A. Well, later in the season; the latter end of September and middle to end of October, there is a class of fish from six to eight inches long that rises to the surface of the water and becomes inflated and you will see hundreds of thousands of those fish.

Q. Dead?—A. No, they are not dead; the Indians go out and will fill their canoe with these fish about the size of a herring, but there is so much air in them they will not sink.

Q. Have you ever thought they were young salmon?—A. Well, I have often thought that they were young salmon—the meat is quite pink and they have very much the appearance of salmon trout in shape and everything else—with this same quality of fish about the middle of October they go up on top of the water on Seton Lake—well, Anderson Lake is connected with Seton Lake by a stream a mile or two long they go up in the lake in the same way—they are inflated with wind.

Q. They could hardly be a salmon I should think?—A. No; I don't think they are.

Q. And then it is not the habit of salmon to float always on top of the water.—A. Well, these cannot get down—they are full of air and float on the water until the cold weather kills them. Some folks suppose that they are salmon, and the reason they come up in two stops in the different lakes is that salmon in coming there to deposit their spawn are much later in Anderson Lake and that would make the young fish much longer in attaining their growth.

Q. I may mention, sir, to you that Lake Ontario has in certain seasons of the year thousands and thousands of small fish about four to six inches long floating on the surface of the water and so many of them that people have to move their residences on account of the stench.

By Mr. Higgins:

Q. And these look like young salmon? Do you ever go angling for trout?—A. Oh, yes, often.

Q. And will trout up there take the fly?—A. No; not in the spawning season—the trout there are very much larger than ordinary trout and feed largely on the salmon spawn.

Q. And is it the popular opinion that trout destroy the spawn?—A. Yes; that is the general opinion—Indians say they eat the spawn—I never went into it very much myself.

By Mr. Wilmot:

Q. Have you ever seen the salmon going down river?—A. No; I have seen but very few.

By Mr. Higgins:

Q. Well, the late Inspector of Fisheries considered that only five per cent go back from the Rocky Mountains and some twenty per cent only from nearer waters—do you think that is right?—A. I think even less than that go down. The Indians think but very few go back.

Mr. Wilmot.—As we are referring to habits of salmon and Mr. Mowat's opinion has been drawn in, I have taken the trouble to get a copy of Mr. Mowat's letter to Judge Swan and I may read a portion of it bearing on the point. I merely mention this because we have had the matter up before—he says, you see, that seventy-five per cent return if they don't go far and five per cent from extreme distances.

By Mr. Higgins:

Q. Yes; but Mr. Smith thinks hardly any of them return?—A. Yes; scarcely any of them are ever seen going back.

Q. And you have been thirty-five years resident at Lillooet?—A. Yes. Thirty-five years.

By Mr. Wilmot:

Q. And what are these you have seen at Lillooet?—A. These are wounded ones and they appear to be making every effort to go up.

Q. You have observed a great many runs of fish in thirty-five years—are you of opinion that fish are increasing or decreasing?—A. I have not seen a bit of it.

Q. Well, say the period of seven years last. Were runs same as before—a good year some years, and a falling off at others?—A. I have not noticed any difference at all.

Q. Not since the hatchery has been established?—A. No; there are the same many, many fish. I do not think the fish hatched can be taken into account. I suppose if you took all the fish in one mile in the Fraser River, you would have more fish than have ever been planted.

By Mr. Wilmot:

Q. Well, I may say those young fish always come back to their own waters?—A. I may say fish come up river and then go in Lillooet Lake, and then into Lillooet River, and they are very abundant there.

Q. That is full grown fish?—A. Yes; the full grown fish.

Q. It is pretty well known now that fish that are natives of say, Morris Stream, for instance, and Siwash Stream, the fish that were natives of that stream would not ascend higher up at any time, neither would their offspring. What effect has dead fish on the inhabitants?—A. Well, on small creeks people don't pretend to use the water there at all.

By Mr. Higgins:

Q. But on the Fraser River?—A. Well, on the Fraser River I don't know as it would make any effect; the river is swift and large, and they go down very fast.

Q. Have you ever heard of illness caused by this?—A. No; I have not. For my own part, I never eat a salmon in the upper country.

Q. Do you ever drink any water there?—A. Not of late years and never from the river. We take our water from springs, and at small streams, they do not use the water. I may say that at Lillooet mill the offal got into the wheel and stopped the operations.

Q. Dead salmon?—A. Dead salmon.

By Mr. Wilmot:

Q. I may mention, sir, that is not an unusual occurrence in other parts of the country?—A. Oh, yes; I know.

By Mr. Higgins:

Q. Did you ever shoot any spoon-bill ducks up there?—A. No, sir; none at all.

By Mr. Wilmot:

Q. You don't know then what they may carry in their crops?—A. No, sir.

Q. Have you anything further to suggest?—A. Nothing at all. I may say as regards the health—that is, the dead fish—I don't know, because I do not think people have ever thought much of it, but I should think the effects of dead fish would effect the health of the community.

Q. Are the inhabitants in any way numerous along these streams?—A. No; there are some, but not many.

Q. Then you would not hear of any case of sickness there?—A. Well, as I say, I have not heard of any—then the cold weather comes on after these dead fish come, and that would prevent any offensiveness after that.

Q. Do any animals feed on these fish?—A. Oh, yes; cattle and hogs eat fish up there.

Q. How does it effect hogs?—A. It makes the flesh unsaleable.

Q. What effect has it on cows—on the milk?—A. Well, I suppose it must affect the milk. Of course, I have seen some cows eat salmon, but you cannot say it is a general thing. I have heard that if the fish were cooked, it would not affect the flesh.

Q. I may say, sir, that I have seen a couple of cows eat quite a number of salmon in a day, and salmon of twenty-five pounds weight, too, and caught by myself.—A. Have you anything further to ask me, sir?

Q. No, I think not, Mr. Smith; we are much obliged to you for your attendance and for the information you have given us; thank you, sir.—A. Oh, not at all; I am pleased if I have told you anything of value.

Hon. P. O'REILLY, Indian Reserve Commissioner, a native of Ireland, living in British Columbia since 1859, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, if you are desirous of giving any information we will be very glad to hear it?—A. Well, Mr. Wilmot, I do not think I could give any valuable information; I have not been in a position to give anything in particular.

Q. Well, sir, we might ask you questions?—A. Oh, yes; I will be very glad to answer questions or give my reason for not being able to do so.

Q. The first question on our list is as regards the offal. What effect do you think it has on the river?—A. I have had no opportunity of judging; when I knew the Lower Fraser River the industry was in its infancy.

Q. Then there was not sufficient thrown in then to allow you to judge?—A. No; there were very few canneries at that time.

Q. Then you only know by hearsay?—A. Yes.

Q. Would it be out of place for you to state what you have heard?—A. Well, I have heard divers opinions; some say it is injurious and some others it has no effect whatever.

Q. Well, the effect of saw-dust on salmon?—A. Well, again, I can only say I have always heard that saw-dust was injurious; I do not pretend to know much about it though; I do not speak practically upon it.

Q. Then the question of limitation of nets?—A. I have not the slightest knowledge upon that.

Q. Well, as to the Sunday close time, whether the Sunday should be kept in its entirety or a portion of it devoted to fishing; the close season at present is from 6 a. m. Saturday, to 6 p.m. Sunday; many are under the impression that it should contain the whole Sunday; have you any opinion on that point?—A. On general principles I should be very glad to see the Sunday kept, but my evidence must be mostly hearsay; I have not been resident in the vicinity of canneries for many years.

Q. But do you think on general principles that Sunday should be observed?—A. Certainly.

Q. Have you any knowledge of the effects of artificial breeding of fish?—A. None whatever.

Q. Then on the question of the limitation of licenses, persons coming to the country cannot get licenses, do you think resident fishermen and British subjects should get licenses?—A. Of course on general principles I should think every British subject should be encouraged in every industry, but I have no special knowledge on that either.

Q. Then do I draw the conclusion that persons emigrating here should be entitled to licenses?—A. Oh, certainly, most certainly.

Q. Well, I don't know, unless you have any other matter to advance—that we can ask you anything further.—A. I do not think I could throw any light of value upon your enquiry.

By Mr. Higgins:

Q. You have travelled much in the interior?—A. Yes.

Q. Have you ever noticed the fish ascending the rivers and streams?—A. I have noticed them and know of streams where the fish once numerous are now depleted, and others have much increased.

By Mr. Wilmot:

Q. Could you give the names of those streams, Judge O'Reilly, where salmon have disappeared?—A. The Upper Columbia River for one.

Q. That runs out in American Territory?—A. Yes.

Q. What cause was assigned?—A. The Indians assign the extensive trapping and catching of fish on the Lower Columbia River.

Mr. Higgins.—There is no hatchery on the Columbia River?

Mr. Wilmot.—Oh, yes—there are two or three of them.
Mr. Higgins.—But they don't put them in above?
Mr. Wilmot.—Oh, no.

By Mr. Higgins:

Q. Would you issue licenses to independent or individual fishermen without regard to canners?—A. Oh, certainly not—unless there was danger of over-fishing, then I think there should be a limit.

Q. Well, if canners had no licenses and fishermen had all, would that place canners at the mercy of the fishermen?—A. I should think so—that would be a monopoly.

Q. And on the other hand if canners got all and fishermen none, would it not be the same thing on the other side?—A. Oh, yes; I don't think there should be a monopoly on either side.

Q. Do you ever hear of obstructions being put in the Columbia River to prevent fish from ascending?—A. I have heard they were in the habit of putting traps and wheels in the river there.

Q. Have you ever seen one of those fish wheels in operation?—A. No, I have not. The fish are ascending in great numbers in the Lillooet River.

Q. When were you there, Judge?—A. In August.

By Mr. Wilmot:

Q. Were there many dead and dying fish then?—A. Not then—there would be later on—I have passed down and saw many numbers and the dead afterwards.

Q. Had they then spawned do you know?—A. Well, the spawning beds were pointed out to me and I saw places where they had ploughed up, etc.

Q. It is said after fish go up they die and none come down—have you any opinion on that point?—A. Well, I do not know—I have seen living fish very weak on the way down.

Q. Head foremost or tail first, or how?—A. Well, I think I have seen them in all positions—head first trying to stem the current, etc.

Q. Well, if you have nothing further, Judge O'Reilly, we are much obliged to you for your information.—A. You are quite welcome—I am sorry it is not of more value to you.

Mr. J. H. TODD, a native of Ontario, resident of Victoria, B.C., an importer and salmon canner, having been thirty years in British Columbia and ten years in the salmon canning business, was duly sworn.

Mr. Todd proceeded to read his evidence from a written document, the first part being a letter from a friend on the Columbia River, U.S., explaining the present condition of no restrictions on that river, and forwarding copy of a bill which had been introduced in the Legislature of Oregon on the subject of the salmon fisheries.

By Mr. Wilmot:

Q. This letter you are reading, is it from a packer, not an authentic government report?—A. Yes; from a packer; but from a man from whom every word I will venture as authentic.

Q. Of course; but the proper way is to take the regular statutes of the country.—A. (holding up letter from which he had been reading) This is perfectly correct, and I have a copy of the bill which will prove that the statements are accredited. I submit them as evidence.

Mr. Armstrong.—But we will not take them as evidence.

Mr. Higgins.—Oh, don't be in a hurry. Wait till we see them.

Mr. Todd.—Well, I may say I wrote to these parties on account of my conversation with yourself and Mr. Armstrong, a few nights ago, and this letter is the reply.

Mr. Armstrong.—Well, but suppose everybody should write like this and put in all sorts of documents—we cannot do things like that, you know.

Mr. Higgins.—Well, I daresay Mr. Todd has enterprise enough to get those papers properly certified, and then it might go in.

Mr. Wilmot.—Well, he may put it in as information.

The letter read by Mr. Todd was as follows :—

Astoria, Oregon, 25th February, 1892.

Messrs. J. H. Todd & Son,
Victoria, B.C.

Gentlemen,—We have your favour of the 19th instant, and herewith enclose a copy of the joint Oregon and Washington fish law as now in operation, which will answer most of the enquiries that you make.

Fishing licenses are not required and each cannery may employ as many boats, traps, or seines they deem to their interest, there being no restriction in this matter. There is a separate law, however, which provides that no man may fish who has not been a citizen of either state for the six months prior to the time that he commences to fish, and a citizen of the United States for one year prior to that time.

Any method of catching fish may be used, either gill-net, trap, seine, or wheel, and in fact, there are no restrictions, except as to the close seasons and times, which are fully explained in the enclosed copy of the law.

On the upper river the offal is allowed to fall into the river at each cannery, but on the lower river it is gathered up by a party engaged in making salmon oil and thus disposed of, though there are no legal regulations in the matter.

We think this will cover about all the points mentioned in your letter, and any that occur to us in that connection.

We note that the packers on your streams contemplate the restriction of packs, as the Alaska packers have done. Just what will be done on this river, it is impossible to say as yet, but as far as the quantity of a pack is concerned, it does not cut much of a figure, because we know that we can only do about so much, varying but little from season to season, and about all of the pack has a regular trade in the United States, consequently cuts no figure as to the supply of foreign markets. The price of fish has not yet been agreed upon, but in our opinion will be $1, and packers will necessarily be much firmer in their selling ideas than they were last season, for the reason that when the season of 1891 opened, most of the packers expected to get fish for 75 cents and sold accordingly, but had to pay $1 for their fish, thus making no money. This season they expect to pay $1, and will raise their selling ideas proportionately, so that all things combine this season to make a much firmer market than has been for several years past.

If we have overlooked any information that you would like to have, do not hesitate to call upon us at any time, and we shall always cheerfully be of any service that lies in our power.

Very truly yours,

(Signed) GEORGE & BARKER.

Mr. Todd.—And this, gentlemen, is the Bill embodying the laws at present in force—Senate Bill, No. 205—introduced by Senator Fulton, of Oregon (proceeds to read Bill). Though this is but a copy of the Bill, I know that it was approved as this reads on 17th February, 1891, and is now the law.

The Bill is as follows :—

Oregon Legislature. Sixteenth Session.

SENATE BILL No. 205.

Introduced by Mr. Fulton.

A BILL

For an Act to protect salmon and other food fishes in the State of Oregon and upon all waters upon which this State has concurrent jurisdiction, and to repeal sections 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497 and 3498 of Hill's Annotated Laws of Oregon.

Be it enacted by the Legislative Assembly of the State of Oregon :

Section 1. It shall be unlawful to take or fish for salmon in the Columbia River or its tributaries by any means whatever in any year hereafter, between the first day of March and the tenth day of April, or between the tenth day of August and the tenth day of September, or in any of the rivers and bays of the State or the Columbia River during the weekly close time—that is to say, *between the hours of six o'clock p.m. on each and every Saturday and six o'clock in the afternoon of the following Sunday, close time ; provided,* that in Clackamas River it shall not be lawful to take or fish for salmon, by any means whatever, between the tenth day of August and the first day of October ; and any person or persons fishing for or catching salmon in violation of this section, or fishing for salmon by leaving or having any fishing gear in the water in a condition to take fish, or purchasing salmon so unlawfully caught, or having in his or their possession any such salmon, shall be deemed guilty of a misdemeanour, and upon conviction thereof, be fined in a sum not less than fifty dollars nor more than two hundred and fifty dollars.

Section 2. It shall be unlawful in any manner to catch, kill or destroy any salmon on or within one mile below any rack or other obstruction erected across any river or stream for the purpose of obtaining fish for propagation, and any person or persons violating any of the provisions of this section shall be deemed guilty of a misdemeanour, and upon conviction thereof be fined in a sum not less than fifty dollars nor more than two hundred and fifty dollars, and any and all appliances used in the violation of this Act, viz. : boats, nets, traps, wheels, seines or other appliances shall be subject to execution for the payment of the fine herein imposed.

Section 3. It shall not be lawful for any person or persons to take or fish for salmon in the waters of the Nehalem, Tillamook, Nestucca, Salmon, Siletz, Yaquina, Alsea, Siuslaw, Umpqua, Coos Bay, Coquille, Sixes, Elk, Chetco, Rogue River, Windchuck or any of their tributaries, or in any other streams or bays in this State except the Columbia River and their tributaries, from the 15th day of November until the first day of April during any year hereafter, and any person or persons violating any of the provisions of this section shall be deemed guilty of a misdemeanour, and upon conviction thereof be fined in a sum not less than fifty dollars nor more than two hundred and fifty dollars.

Section 4. It shall not be lawful for any pound net, set net, trap weir or other fixed appliance for taking fish, to extend more than one-third of the way across the breadth of any stream, channel or slough, at the time and place of such fishing, and any person or persons violating any of the provisions of this section shall be deemed guilty of a misdemeanour, and upon conviction thereof be fined not less than fifty dollars nor more than two hundred and fifty dollars.

Section 5. It shall not be lawful to cast or pass or allow to be cast or passed into any waters of this State into which salmon or trout are wont to be, any lime, gas, coculus, indicus, or any other substance deleterious to fish, and any person or persons

violating any of the provisions of this section shall be guilty of a misdemeanour, and upon conviction thereof be fined in a sum not less than fifty dollars nor more than two hundred and fifty dollars.

Section 6. It shall be unlawful for any person or persons to receive or have in his possession, or to offer for sale or transportation, or to transport during the close season in the spring, namely, from March first to April tenth, any of the following varieties or kind of fresh fish : Chinook salmon, silver salmon, steelhead or blueback, and any person or persons violating any of the provisions of this section shall be deemed guilty of a misdemeanour, and be fined in a sum not less than fifty dollars nor more than two hundred and fifty dollars.

Section 7. Any person or persons now owning or maintaining, or who shall hereafter construct or maintain any dam or other obstruction across any stream in this State which any food fish are wont to ascend, without providing a suitable fishway or ladder for the fish to pass over such obstruction, shall be deemed guilty of a misdemeanour, and upon conviction thereof be punished by a fine of not less than one hundred dollars nor more than two hundred and fifty dollars, and said dam or obstruction may, in the discretion of the court, be abated as a nuisance.

Section 8. It shall not be lawful for the proprietor of any saw-mill in this State, or any employee therein, or any other person, to cast saw-dust, plainer shavings or other lumber waste made by any lumber manufacturing concern, or suffer or permit such saw-dust, shavings or other lumber waste to be thrown or discharged in any manner into the waters of this State, or the Columbia River, or to deposit the same where high water will take the same into any of the waters of this State, or the Columbia River ; and any person or persons violating any of the provisions of this section shall be deemed guilty of a misdemeanour, and upon conviction thereof shall be fined in a sum not less than one hundred dollars nor more than two hundred and fifty dollars.

Section 9. Whenever the term salmon is used in this Act, it shall be construed to include chinook, steelhead, blueback, silverside and all other species of salmon.

Section 10. All the moneys collected under the provisions of this Act shall be paid into a fund to be known as a fish commission fund.

Section 11. Payment of any fine and cost imposed under the provisions of this Act shall be enforced in the same manner as is now provided by law in other criminal actions.

Section 12. Justices of peace shall have concurrent jurisdiction with the circuit court of all offences mentioned in this Act.

Section 13. Nothing in this Act shall be construed so as to prevent the taking of fish at any time of the year and in any manner for propagation.

Section 14. Every person or persons owning or operating or using any pound net shall, during the weekly close times aforesaid, cause the entrance thereto and into the heart thereof to be securely closed in such manner as to prevent fish from entering the same, and the tunnel thereof shall be lifted so that fish cannot pass through it. And every person owning, using or operating any pound net or trap in any river or waters of this State or in any river or waters over or upon which this State has concurrent jurisdiction, shall cause to be posted in a conspicuous place thereon a number not less than six inches high, painted in black on a white ground, which number shall be named and designated to such person by the fish commission, and such person or persons so owning, using or operating any such trap or pound net shall conspicuously show at night time, between sunset and sunrise, a bright white light ; and any person violating any of the provisions of this section shall be deemed guilty of a misdemeanour and upon conviction thereof shall be fined not less than ten dollars nor more than two hundred and fifty dollars.

Section 15. That sections 3489, 3490, 3491, 3492, 3493, 3494, 3495, 3496, 3497 and 3498 of the general laws of Oregon, as annotated and compiled by W. Lair Hill, be and the same are hereby repealed.

Section 16. This Act shall be in force from and after its approval.

Approved 17th February, 1891.

Mr. Todd. Before leaving this point, I would like to make a remark in regard to the responsibilities of agents. It was remarked yesterday that a person would not take

a commission or agency even suppose there was a good commission attached to it, and it was with a view of showing that agents occupy a very responsible position in connection with the canning industry. They do the financing and furnish the means for the canneries for which they are agents, consequently the risk is very large and the small amount of commission which they receive for their services would not warrant them in taking an agency unless it was a success.

By Mr. Wilmot :

Q. Do I understand then that unless a company is successful the agent would not get his commission ?—A. Well, it is not connected directly with it—it is based on the product.

By Mr. Armstrong :

Q. I think what Mr. Todd means is that if the product does not turn out well, the agent will not get his money back.—A. Yes, Mr. Armstrong understands it—I merely wanted to mention it.

Mr. Todd proceeded to read from his memorandum and referred to offal having been at one time deposited in pens or cribs by order of the Department.

Mr. Armstrong.—Is that so—the Department required the offal to be put into bins ?

Mr. Wilmot.—I don't know about that—Mr. McNab, can you say if this was so ?

Mr. McNab.—Yes, I believe that is quite correct—it was before my time, but I believe it was cribbed under directions from the Department.

Mr. Todd.—When I make a statement, Mr. Commissioner, you will please take it. (Applause from audience.)

By Mr. Wilmot :

Q. Order, order, gentlemen ; (to Mr. Todd). Oh, I don't doubt your word, but I was not aware that such was the case.—A. Yes, and it just shows the folly of having to defer to people at Ottawa who are so far away, they do not know anything about the matter.

By Mr. Armstrong :

Q. Was it not the fault of your representatives, Mr. Todd, in not having the matter rectified ?—A. Well, unfortunately, our representatives have never been paid much heed to.

Mr. Todd then proceeded, reading from his memorandum on the question of licenses—advocating the granting of twenty-five licenses to each cannery, and unlimited licenses to fishermen—during this Mr. Wilmot's name was mentioned in connection with the statements contained in his report of 1890.

By Mr Wilmot :

Q. You bring my name in there, sir ?—A. Yes, sir ; I do.

Q. The facts and figures taken by Mr. Wilmot were taken from your own reports, sir, furnished to the Department.—A. But, I have seen in the evidence given—so many fish to the boat, etc. Now, sir, I have the facts here for every season since '88—the detailed catches of the contract boats during each season and taken from our books.

Q. Are these the daily catches ?—A. For the whole season—now I will just read the figures for '88. Richmond Cannery—Todd & Sons—"Chas. Victor," 957 ; "Felix," 845 ; "Old Jim," 1,308 ; "Frank," 822 ; "Cemon," 932 ; "Old Charley," 499 ; "Peal," 1,114 ; "Kanaka Joe," 1,260 ; "Croney," 879 ; "Peter," 952 ; "Capt. Jack," 522 ; "P. Gonsally," 1,344 ; "Philip," 879 ; "Albertson," 411 ; "Billy Bell," 474 ; "Kenneth," 454. Sixteen contractors—fish, 13,652—average 854—32 days fishing average for 24 hours, 27 fish.

Q. That was a short year, was it not ?—A. I am well aware of it, sir.

Q. Was not 1889 a bigger year ?—A. If you have patience, sir, I will tell you presently. (continued reading) Richmond Cannery, season 1889—Todd & Sons : Contract boats fishing, 10. Season commenced 15th July ; season ended, 25th August ; equal days of 24 hours, deducting 36 hours per week close time, 32 days. Contractors'

catches, "Kanaka Joe," 5,723; "Cemon," 8,493; "Old Jim," 9,931; "Garupie," 7,671; "P. Gonsally," 8,876; "Tom," 6,712; "Frank & Old Charley," 8,696; "Philip," 8,398; "Capt. Jack," 7,175; "Edwards," 7,697. 10 contractors caught 79,372 fish, average 7,937. 32 days fishing equals average per 24 hours, 248.

Q. The contractors are whom?—A. Both outside fishermen and our own men. The men get pay for the fish turned in and so it does not matter. They are whitemen, Indians, and all kinds, more or less.

Q. Then you see these averages are much more than any we have had. The general average was about 6,000?—A. Well, I read it in the papers.

Q. Do you believe all you see in the papers, sir?—A. Well, when I see it comes from a reliable source like this Commission, I certainly think it correct.

Mr. Wilmot.—But the Commission has had nothing in the papers; not a thing.

Mr. Todd then read his figures for 1890 and 1891, after which the memoranda as to the catches were handed to the Secretary for record.

Mr. Todd.—I give you the different years and you will see it all depends upon the run.

The data put in by Mr. Todd were as follows:—

Richmond Cannery, Season of 1888, J. H. Todd & Sons.

Contract boats fishing, 16. Season commenced, 10th July; season ended, 20th August. Equal days of 24 hours, deducting 36 hours for weekly close time, 32. Total catch during season, 13,652; average, 854. 32 days, equal average per 24 hours of 27.

Contract boats fishing, 1889, 10; 1890, 16. Season commenced, 1889, 15th July; 1890, 4th July; season ended, 1889, 25th August; 1890, 20th August. Equal days of 24 hours, deducting 36 hours weekly close time, 1889, 32; 1890, 38. Total contractors' catch for season 1889, 79,372; 1890, 79,654. Average per 24 hours, 1889, 248; 1890, 131. Average per contractor for season, 1889, 7,937; 1890, 4,981.

Contract boats fishing, 1891, 20; season commenced, 1891, 7th July; season ended, 1891, 30th August. Equal days of 24 hours (less close time) 1891, 43. Total contractors' catches, 1891, 60,787. Average per contractor, 1891, 3,039. Average per man per 24 hours, 1891, 70.

Beaver Cannery.

Contract boats fishing, 1889, 9; 1890, 16; 1891, 14. Season commenced, 1889, 15th July; 1890, 4th July; 1891, 7th July; season ended, 1889, 25th August; 1890, 20th August; 1891, 30th August. Fishing days of 24 hours, 1889, 32; 1890, 38; 1891, 43. Total contractors' catches, 1889, 73,603; 1890, 77,255; 1891, 57,798. Average contractors' catches, 1889, 8,067; 1890, 4,830; 1891, 4,128. Average contractors' per 24 hours, 1889, 252; 1890, 128; 1891 96.

Q. Then as to the close season?—A. I think the close season as it stands at present is all right; I think laying off at 7 o'clock on Saturday morning and commencing again on Sunday night is about the correct thing as well as we can get it. I will ask your Commission to allow me to make a statement *re* Alaska pack. It was last year about 800,000 cases; they have unanimously decided to limit it this year to one-half that amount. I mention this so that there should be as few restrictions put on canners here as possible; when we have to compete with a place like Alaska, where the catch of fish cost them almost nothing; now this year they have decided to reduce their catch one-half. I will just hand in this memo. on the subject to the Secretary, so it may go on record:—

"Alaska: there are thirty-four canneries, of which only nine are to work this season; give reasons as poor business; pack to be reduced from 800,000 cases in 1891 to 400,000 cases in 1892."

By Mr. Wilmot:

Q. And what are the reasons for this?—A. Simply on account of the over-supply of salmon in the markets of the world.

Q. Well, how would that affect you if the Government put a limit upon you here? A. Well, we are voluntarily restricting our supply this coming year ourselves.

Q. Now, you instance you use 50 boats in a poor season, and in a good season you want 100?—A. Oh, no; only we require more boats in a poor year than in a good year.

Q. But is not that affecting the interests of the fishery?—A. No; not at all; we have abundance of fish, and the quantity of fish is not decreasing, but is increasing; that is shown, I think, clearly from the records.

By Mr. Higgins:

Q. Are both your canneries on Canoe Pass, Mr. Todd?—A. No; one is on the main river and the other on the channel.

Q. How do you dispose of your offal?—A. We put it in the water.

Q. Have you ever seen it afterwards?—A. No; it is carried off and disappears.

Q. Have you had complaints that any offal catches in your nets?—A. No, sir; not one, and for that reason I cannot believe that the statements that have been made are wholly true, because I will say with our own experience of our own boats we have never once heard of complaints on that score.

By Mr. Wilmot:

Q. If fifteen or twenty people would swear that, would you say it was not true?—A. No; but I am speaking from my own knowledge.

By Mr. Higgins:

Q. Are you at the cannery during the season?—A. Yes; most all the time.

Q. Have your ever drank any of the water?—A. Yes, I have. Now, I would like to say a word on that. I would say that the great trouble of inhabitants on the Fraser River is they should filter their water; we have used a filter for our purposes always.

Q. Have you ever heard of a case of typhoid around your neighbourhood?—A. Well, there have been some; but I do not know of any in our immediate neighbourhood. I have known of it in the mountains, in the city, and all the way round; there is typhoid everywhere, and I do not know of any cases where it could come from the water. It exists in places where there appears to be any bad water or smells, etc.

By Mr. Wilmot:

Q. Where does it generally prevail?—A. Well, wherever the greatest amount of decaying matter is I suppose, but it is everywhere more or less, and not only on Fraser River but all round.

Q. I think where foul or impure water is found—is that so?—A. Well, I cannot say that—here right in this city, in the dirtiest place in the Chinese quarter, I have never heard of a case of typhoid fever yet. I don't know how it is our people will get it—now, there is Judge O'Reilly, who gave his evidence just before me—his son has got it, and I am sure there is not a cleaner place in the city of Victoria than around his premises, and yet he has got it.

Q. The microbes or germs must have got in then—well, have you anything further to say?—A. No.

Mr. R. P. Rithet at this point handed in a telegram to Mr. Wilmot, bearing upon the sittings of the Commission, and enquiring the length of time the Commission would sit in Victoria.

Mr. Armstrong.—We were informed that there were a number of fishermen from Skeena River who wished to give evidence—now, we have had none of them yet I think—now, if you have any fishermen from that part of the country that would desire to give evidence?

Mr. Rithet.—I think so—I will enquire.

Mr. Armstrong.—Well, are there many fishermen go from here up north to work?

Mr. Rithet.—Yes, I think so.

Mr. Armstrong.—Well, if there are no fishermen or others here, I do not see why we should sit on Monday, if we can get done to-morrow—I would like to have some practical fishermen if possible, like we had in New Westminster.

Mr. Higgins.—I think we can wire him to come down by boat to-morrow and give his evidence to-morrow—I don't think there will be any need to sit on Monday at all.

Mr. Wilmot.—Very well then, tell him to come to-morrow. (A gentleman in the audience.) Most of the fishermen have already gone north.

Mr. Higgins.—I think Mr. Dempster, if possible, should come here and give evidence—he would be a most important witness. (A gentleman in the audience.) The Commission ought to go to the Skeena River and take evidence there.

Mr. Wilmot.—Well, it would be impossible—then the fishermen would be busily engaged.

Mr. Robert Ward.—Mr. Chairman, I am on oath and I would like to make just one addition to my evidence of yesterday that has just been suggested to me The unanimous desire of all interested in the fishing business is that the authorities should come here and visit the localities in the fishing season.

Mr. Wilmot.—But could practical fishermen be obtained then?

Mr. Ward.—I think so—the fishermen are not always actively engaged—they work in two shifts.

Mr. Armstrong.—Well, if the fishery interest can bring sufficient influence to bear on the Dominion Government to let us come around in the fishing season, I am sure we will be only too glad to take advantage of it.

Mr. Ward.—Well, I am sure the Government would not grudge a few dollars to get the valuable information they would obtain by visiting the fishing places during the fishing season.

Mr. Wilmot.—But the Commission could not sit until next September.

Mr. Ward.—I would suggest they adjourn until then.

Mr. Armstrong.—But then there would be no report, Mr. Ward.

Mr. Ward.—Well then, the Commission could make *interim* recommendations, so that there would be no suffering on account of delay.

Mr. Wilmot.—Well, I may say we have already made suggestions to the Government, so that no hardship may ensue.

Mr. Armstrong.—Yes; and I may say that before we left New Westminster, Mr. Wilmot was waited upon by a delegation from the New Westminster Board of Trade requesting that a decision be arrived at at an early day.

Mr. Wilmot.—Yes; and I may say that I informed the delegation that I would suggest to the department the desirability of getting these regulations ready as soon as possible, and that an *interim* license should be issued lasting until the 1st of June; but as regards the canners, this Commission would have their report in shape before the canners would commence their operations. They generally commence, I believe, along in June, and before then the Commission would have reported assuredly. But, I may state, and I do so publicly, that my opinion is, the Government would not make any radical or material alteration in the matter, whatever may be the recommendations of this Commission.

Mr. Higgins.—Why should not this Commission recommend as a body that no alteration should take place in the present state of affairs for this year? Now, you must know it will take a long time to transcribe this evidence; it is most important, and cannot be hurried, and affects many of our fellow-citizens very much; we should go over it carefully, etc.

Mr. Wilmot.—But, I would say that if we have to wait here until June——

Mr. Higgins.—I do not think it will be ready, from appearances, until the fall.

Mr. Ward.—I think no change should take place in the regulations this year.

Mr. Wilmot.—When do the preparatory operations begin?

Mr. Ward.—Well, I think on the northern rivers they have already commenced; and on the Fraser River they will very soon commence also, and it is very hard to make even an approximate calculation until it is known what the Government intend to do.

Mr. Wilmot (to Mr. McNabb). When do you first issue the licenses, Mr. Inspector?

Mr. McNabb. Well, just as they apply for them. The northern canneries apply often in January and February. It is very important for them that they should know the licenses they are to get, some time beforehand, as early as possible.

Mr. Armstrong.—Well, I think the Commission might meet and decide on some points—on recommendations to carry out this year.

Mr. Alex. Ewen.—Well, we feel it is a great hardship, not knowing how to prepare for our work. It may turn out from this Commission, and from remarks that have been made, that we will be almost prohibited, and the restrictions will be so great that we may have to arrange—we have been threatened with all sorts of things.

Mr. Armstrong.—Pardon me, Mr. Ewen, do you say you have been threatened

Mr. Ewen.—I have been threatened with being fined $100 a day.

Mr. Armstrong.—Oh, no; we simply told you the law. We told you you were liable to be fined. You should not go so far in making statements. I merely told you the Government had no power to overrule an Act of Parliament. Parliament is the highest court of the land, and the Government cannot override that. Now, the general impression is that——

Mr. Wilmot.—I must call you gentlemen to order; we must proceed to business.

ASHDOWN GREEN, a native of England, twenty-nine years in British Columbia, a civil engineer, and resident of Victoria, B.C., was duly sworn.

By Mr. Wilmot:

Q. Well, Mr. Green, if you have anything to tell us we will be very glad to hear you.—A. I do not know that I have any statement to volunteer—I have been requested to come here and give any information on the natural history of salmon that I may know—I have not had much opportunity to get special information on salmon, but I have thought if there is anything I can give I will be very happy to do so.

Q. Well, I may say I feel a little hesitation in putting these questions, because at New Westminster I felt them particularly tedious—I may say, however, that the object of this Commission is not only for the canners or the fishermen, but to obtain all information possible as regards the habits of fish, etc., in order that the Government may derive information useful for the preservation of the supply.—A. The spring salmon and the cohoes are the ones with which I am best acquainted.

Q. What are your views with regard to spring salmon—on what streams do you specially refer to?—A. I know most of the streams in British Columbia, not intimately, but from travelling through and taking notes of different streams.

Q. When do spring salmon enter the rivers?—A. At different times—hardly two rivers are alike.

Q. Are you acquainted with the Fraser River?—A. Very little.

Q. What river then?—A. The Cowichan River—it is a small stream, but you can observe a small stream better than a big one—the Cowichan is about thirty or forty miles from here on the east coast of Vancouver Island.

Q. What is the size of that stream at the ordinary height of water?—A. It varies, but the Cowichan is very broad now—about 120 or 130 feet or perhaps 150 on an average.

Q. Is it rapid in current?—A. Rapid in current and navigable for about half a mile or three-quarters—the upper part is rocky and gravelly and the lower through lovely soil.

Q. And do you consider it a good breeding river?—A. Yes; a good breeding stream.

Q. Do salmon breed in the river or do they go in smaller lakes and streams at head waters?—A. Yes; at the smaller waters.

Q. When do they spawn?—A. In October at the head of the river and later in the small streams at headquarters.

Q. And that is the universal time of spawning of salmon on this coast?—A. Yes; about that—some a little earlier—October would cover the principal spawning time.

Q. What process is undergone by salmon in depositing their eggs?—A. The quinnat spawn in pairs—the others do not.

Q. Do not the sockeye too?—A. I know nothing of the sockeye.

Q. Then you are referring more particularly to spring salmon and cohoes?—A. Yes: and also the humpbacks and dog-salmon—they do not spawn in pairs—in shoals and masses.

Q. Well, have you any knowledge of the time in which the young fish are produced from the egg—what season of the year?—A. No; I cannot find that out—I have to observe when I can. I understand the sockeye comes out in the following spring.

Q. Then an estimation would be about the same time?—A. About the same time, I suppose.

Q. Have you seen parrs?—A. Yes, plentifully; I never saw the smolt but plenty of parrs. I think the fish stay less time than in England. I do not think they stay above one year, but you must recollect I never fished for small fish; those I have seen would not be above 8 or 9 inches long.

Q. Then you think fish in Cowichan stream very like fish of eastern provinces and Great Britain?—A. Well, they are very nearly but there is a great difference, too. Now in England many poachers will catch smolts without scales, or they will come off in their hands, but I have never seen that here.

Q. The practice you speak of is done with fly fishing?—A. Yes.

Q. Any fly fishing practiced here?—A. No; very little.

Q. And these smolt have scales before they go to sea?—A. Oh, yes; they would not live in the sea without the scales.

Q. Then you draw the conclusion that spring salmon or "quinnat" is very nearly identical with the salmon of the eastern provinces and Great Britain?—They are very similar.

Q. And should the same protection be afforded here or not?—A. I think the same protection should be afforded here, certainly.

Q. Are any of those "quinnat" salmon both red and white-meated?—A. They are.

Q. At what season more numerous?—A. Well, I have never noticed them in the Cowichan; as far as I have seen they are all red-meated there.

Q. Can you assign any reason for this?—A. Well, I cannot say. I have an idea they may be fish returning from the upper waters.

Q. Then spring salmon become white-meated after spawning?—A. Yes; there is no doubt they are much like the habits of salmon in England and elsewhere, except as regards the smolts; they are quite different.

Q. And do you think these white fish are spent fish that have spawned and lost their colour?—A. Oh, no; I do not think so. The spring salmon when they run in they do not stay long in tidal water, but go up to the pools and stay there.

Q. And then the habits of all salmon are to have feeding grounds in the deep sea and breeding grounds in fresh water?—A. Yes; but I think these spring salmon have also feeding places in fresh water. Now many opening a salmon here would think there is nothing in it; now a salmon's stomach in the sea is very large and capable of holding two or three herrings; now in the river it is not larger than that pencil.

Q. He does not feed?—A. But he does though, I think. It might be a provision of nature to make room for his eggs.

Q. But do not you think it a wise provision of nature that fish should not eat their own progeny?—A. I do not know a fish but does not eat their own young, not even the soft-mouthed fish that does not.

Q. But, is it not generally accepted that salmon do not eat in fresh water?—A. It is, but this is a different genus of fish. Of course it has not been sufficiently found out, but I think if it could be it would be found they do eat.

Q. But if many thousands of salmon were found on dissection with stomachs sealed and nothing in them, would it not be a certificate that they do not eat in fresh water?—A. Yes, it would; but these Cowichan salmon are different. It would apply to salmon in the east, but these I consider eat. I would like to examine them and know more about them before expressing myself definitely.

By Mr. Higgins:

Q. Will the mountain trout eat the ova of the salmon?—A. Certainly they will.

By Mr. Wilmot :

Q. It is a well known theory that all fish live upon smaller ones?—A. Oh, yes ; suckers, too, are destructive to the spawn.

Q. How can suckers eat the eggs of the salmon if imbedded in the gravel?—A. Well, but there are many loose.

Q. But would not they be the eggs of other fish lying on the bottom?—A. Well, perhaps so.

By Mr. Higgins :

Q. What are these trout, Mr. Green?—A. Well, that is what I want to get at myself. I have seen young salmon sold as trout. There are two trout here—the steelhead is one, and the other is the common trout.

Q. Are you acquainted with the salmon trout that frequent the Great Lakes?—A. Yes ; there are two trout here.

Q. Is it possible to distinguish the young salmon from the trout?—A. Yes ; quite easily. The trout are all larger—have nine rays in caudal fin, and all salmon have from eleven to fourteen.

Q. But the transverse bars are very small, and it is very difficult for an ordinary person to distinguish the difference?—A. Oh, yes ; you could not tell them at all but for the fins—you could not tell them but for them.

Mr. Higgins.—What I want to find out, Mr. Wilmot—I am getting from you—that is what I complained of before You are, of course, a gentleman known to be familiar with these things ; but I am not, and wish to get my information from the witnesses who appear before us.

Mr. Wilmot.—Right, sir ; proceed.

Mr. Higgins.—Are these trout sold in the markets as young salmon or not?

Mr. Green.—Well, I could not tell that. I never see many that I would know not salmon.

By Mr. Higgins :

Q. Well, I know it is held by many people that they are not trout, but that all are salmon in different stages of development.—A. Yes ; that is quite extensively.

Q. And do you think if more salmon trout were destroyed, more salmon would be preserved?—A. Oh, yes ; certainly. The less salmon destroyed, the more, of course, would come to maturity ; but then the trout are a good fish and can be netted by millions in the Fraser River and Cowichan especially.

Q. What do you think of fish going up river and dying?—A. Well, a great many die, but not all. I could not give the percentage, but I feel sure many die.

By Mr. Wilmot :

Q. Do you see many dead fish in Cowichan River?—A. Oh, yes ; many of them. Now, I have heard gentlemen here state they found 700 dead fish, but you go and pick up 700 and you will pretty well clean them out. I think the dead ones small in proportion to those that go up.

By Mr. Higgins :

Q. You speak of a small river.—A. Oh, yes. Of course, in a small river the dead would not be so many as in a great river where they would have to go farther.

Q. Then you do not think all fish that go up die?—A. Oh, no ; certainly not.

Q. In regard to "quinnat" salmon for food, what is your opinion of them for that?—A. Well, if they be culls, they are well amended culls, indeed. I do not think they are inferior ; many people like them better than red salmon, but they will not sell at all.

By Mr. Wilmot :

Q. May I ask you your experience in regard to salmon in England and Scotland, etc.?—A. I have had very little experience in Scotland or elsewhere.

Q. But have you noticed that the male salmon at rutting time has a large excrescence on the lower jaw?—A. Yes; he has, and then goes to the sea and sheds it.

Q. It is thought here by a large number of persons that they do not do this.—A. Oh, well I think they do.

Q. Have you noticed all male fish carry it?—A. Yes.

Q. Do sockeye the same thing?—A. Yes; but not so strongly pronounced.

Q. Then with regard to colour of salmon—does it colour from a bright red colour to one much lighter?—A. Oh yes.

Q. And you think salmon here are very like salmon on the Atlantic coast and elsewhere?—A. They are very much alike anyway—more so than any other fish we have here.

Q. Do you know in other countries that a certain number of fish die after spawning?—A. Certainly they do from the same cause as here—fungus.

Q. And in a river here with so many more fish—millions of them—that there would be more of those dead fish?—A. Yes; naturally there would be only numbers in greater proportion—in these rivers so rocky and rapid they are more liable to get scratched, etc., and then fungus grows upon them.

Q. Is it not liable on account of the great number of nets here that fish would get abrasions, etc.?—A. Well, I do not know—they are so much more liable to get damaged on rocks, etc., in going up streams.

Q. Could you angle for salmon in these rivers?—A. There are no more than a dozen rivers in British Columbia where you can catch fish with a fly.

Q. Have you caught them with a fly in the Cowichan?—A. Some have been taken—grilse.

Q. Then from the whole aspect of evidence and from personal knowledge the quinnat should appear very similar to all other fish in all other parts of the world?—A. The quinnat is very similar.

Q. Is the Cowichan frozen over?—A. No; not at all. I don't think we have any rivers that would be frozen over unless at the mouths.

By Mr. Higgins:

Q. Do you think quinnat and sockeye are identical?—A. No—not at all—everything is different—the points and everything are different. I think the cohoe has more rays than the quinnat. I would not be quite certain.

By Mr. Wilmot:

Q. Is it not characteristic that all the salmon family the world over are distinguished by having a back adipose fin?—A. Yes.

By Mr. Higgins:

Q. The same brood perhaps, but not the same family?—A. Exactly.

By Mr. Wilmot:

Q. Are oulachons put down in the salmon family?—A. Yes.

By Mr. Higgins:

Q. Have you ever classed the humpback family?—A. Yes; I know them well.

Q. What family?—A. They are salmon—they belong to the same family as quinnat, but they are a different species.

By Mr. Wilmot:

Q. You know the humpback well with hump on back?—A. Oh, yes—it is a male fish only.

Q. Do not all male fish of the salmon family change very much when they come in from the sea?—A. Yes; very materially.

Q. And persons not knowing would consider them different fish?—A. Yes; that has been done. I have known persons to make a difference when they were weighing out fish, but the sockeye does not change. I have seen them at Lillooet just as fresh as when they left the sea.

Mr. Wilmot.—Thank you, sir; the information you have given us is of great interest.

Mr. Green thereupon left the stand.

The Commission decided to issue a subpœna for the attendance of Mr. W. H. Dempster, of the Skeena River, at present in Victoria, but about to leave for the Skeena that afternoon at 5 p.m. The subpœna was issued and served.

At 1.15 p.m. the Chairman declared the Commission adjourned, to meet again at the same place at 2.30 p.m.

Victoria, 4th March, 1892.

Afternoon Session.

The Commission reassembled, and was called to order at 2.30 p.m.

Present: Mr. S. Wilmot, presiding; Mr. Sheriff Armstrong and Secretary Winter.

Mr. WILLIAM H. DEMPSTER, a native of England, 13 years in British Columbia, a resident of Victoria, a salmon canner operating on the Skeena River, was duly sworn.

By Mr. Wilmot:

Q. Do you desire to submit anything to this Commission of your own accord?—A. Well, I do not know as I have much to submit.

Q. The Commission is open to receive any information you are desirous of giving. —A. Well, I came here to answer any question that may be put to me.

Q. Where is your fishing limit?—A. On the Skeena River.

Q. About 600 miles up the coast?—A. 600 miles.

Q. Is it a large river?—A. About two and a half miles wide where we do business. I think more water comes down the Fraser than the Skeena. We are really fishing in an arm of the sea; the tides rise about 30 miles above where we are situated.

Q. What is the name of your cannery?—A. The "Windsor" cannery, the farthest up the river.

Q. And up to the lakes how far is it?—A. 180 miles.

Q. Is it a free running river—free running all the way—no mill dams in the way —any falls or other obstructions to the ascent of fish?—A. Nothing of that kind.

Q. The lakes—are they large and many?—A. There are quite a number; the main lake is 110 miles long, fed by tributary streams.

Q. Is there a boundary established for the limit of fishing?—A. Yes, sir.

Q. Where might that be?—A. About three miles above our cannery.

Q. How wide is the river at that point?—A. I should judge about a mile and a half to a mile and three-quarters.

Q. Are there high tides there where the limit is?—A. About 15 feet; there are 21 feet where we are situated.

Q. Are there other canneries on that river?—A. There are seven others, and one in course of erection.

Q. Is the "Balmoral" one of the syndicate?—A. Yes; and the new cannery being erected is being put up by the North Pacific Company. The North Pacific Company is the syndicate.

(Consulting map.) Q. Then one furthest down on same side of Inlet, what is that? —A. That is the "Inverness."

Q. Then there are eight canneries altogether on that limit?—A. Yes.

Q. Are all about the same capacity?—A. Yes, about the same.

Q. What is the average capacity?—A. About 20,000 cases—that would be the outside limit.

Q. What is the end of the Inlet like—does it open directly out to the sea or is it shut in by the island?—A. It is shut in by the island—County Island lies right in the middle.

Q. How far up is it from the island to the boundary?—A. About seventeen or eighteen miles.

Q. Is fishing carried on then wholly between the island and the boundary or farther out?—A. No; we don't go any farther out.

Q. The outlet from this inlet at the point of the island is how wide?—A. I should judge it to be about three or four miles—that is each outlet before you reach mainland from the island.

By Mr. Dempster:

Q.—You are not speaking of Inverness Slough—as one of those islands causes Inverness Slough you know—forms a slough.

By Mr. Wilmot:

Q. Do fish come up that slough?—A. Oh, yes; that slough is about half a mile wide.

Q. And the outlets from the sea?—A. Are about three miles wide.

Q. Are there any other streams or rivers running into this inlet below the boundary?—A. Well, there is one on which the "Balmoral" cannery is established—it is small and not a salmon stream at all.

Q. What description of nets are used there?—A. We us the five and three-quarter inch mesh.

Q. All drift nets—any seines?—A. No seines.

Q. Is there such a place as Hazelton on the river?—A. Yes.

Q. How far is it from the boundary?—A. 180 miles. It is at the forks of the Skeena.

Q. How many boats have you there?—A. Forty.

Q. Are you all limited to forty or is a certain number given to the river?—A. We get forty each—there are 300 for all the river—200 for the canners and 100 for outside licenses.

Q. Outside licenses would mean to whom?—A. Indians—all Indians—there are no whitemen there.

Q. Then 200 are taken by canneries and 100 under Indian names?—A. Well, we pay for them—they won't pay anything.

Q. All are then properly the canners' licenses?—A. Yes; the canners' licenses.

Q. Would it interfere with your business if all the 300 were taken out in the names of canners?—A. I don't think so.

Q. Then of what use is it taking them in the names of Indians?—A. I don't know.

Q. But it is done? A. Yes.

Q. And you charge them for licenses?—A. No—we don't charge them—they absolutely refuse to pay licenses at all. They never have on the Skeena.

Q. Then the mode of fishing is the same as on the Fraser River and other rivers—by use of drift-nets and boats, and drifting is carried out between the boundary and down below the island?—A. Yes.

Q. Fishing equally all down to the island?—A. Yes; about equally.

Q. Will you have all the 300 boats out at one time?—A. Yes; we can only fish about ten hours in twenty-four.

Q. What fish do you generally catch there?—A. Sockeye, but we have spring salmon as well—they come in about 1st of May.

Q. Were you present when a Mr. Green was giving his evidence?—A. No, I was not.

Q. The spring salmon are larger than sockeye?—A. They will average about twenty pounds.

Q. Have you experienced that spring salmon will be some white and some red?—A. Yes.

Q. When do the white predominate more?—A. In all seasons about 20 per cent would be white and the balance red.

Q. Do salmon go up all the length of the Skeena to the lakes?—A. I believe they do.

Q. And do they go into small streams to spawn?—A. I think so.

Q. In what month?—A. In August and September.

Q. Do you know them to spawn in October?—A. No, I don't think so—I never was there in October.

Q. They might spawn after October, might they?—A. They might, but they all pass up in July.

Q. Do all these spring salmon, as is related by many others, die and not return to the sea?—A. I cannot answer that question—great numbers of them die I know.

Q. Do you think any return?—A. I think some do but very few.

Q. Have you ever seen them?—A. I have seen them in September floating around almost dead, but I do not think they ever get to salt water to do any good.

Q. Do you think they recover from their prostration?—A. No, I do not.

Q. How is the species kept up then!—A. By the supply—the deposit of spawn every year would keep up the supply.

Q. Then you think it no use fish renewing their propagating qualities?—A. It has not been shown that they do die.

Q. But if it were shown us some do?—A. Well, I do not think they do—the river is very rocky and rapid and they get worn out.

Q. If it were shown that fish go up 800, 900, and 1,000 miles what would you say?—A. Well, I think they do that in the Skeena—they go in Babin Lake.

Q. And your impression is they do not return?—A. I do not think they return to do any good.

Q. Is that the impression of Indians and other inhabitants?—A. I do not know what their impressions are.

Q. You catch you say these spring salmon for canning purposes?—A. Yes.

Q. To any extent?—A. No, they are not very numerous.

Q. What do you do with white ones?—A. Nothing, we give them to Indians.

Q. Do they consume all of them?—A. Well, most of them.

Q. And those they do not?—A. We salt them—cut the bellies out and salt them.

Q. What weight would you salt?—A. About seven pounds.

Q. And then the balance out of the twenty pound fish is what?—A. It is thrown away—there is no demand for it.

Q. Thrown away as offal is it?—A. Yes.

Q. You see no possibility of converting it into a commercial article?—A. No, we have tried.

Q. What is the reason?—A. The colour.

Q. And they are not saleable as a salt fish?—A. They would not pay the expense of the barrel and salt.

Q. Where have you shipped them to?—A. Canada and the Sandwich Islands and Australia.

Q. Do you speak of Canada as being a foreign country to this?—A. No, but then we call it always Canada, in the old way.

Q. Then for your own taste one is as good as another?—A No, they are not as good—there is very little difference but one is superior to the other—in England the colour is a great objection.

Q. Yes, I know—I remember in England in '83 the Skeena salmon took the prize over all others. Now, your chief fish is sockeye—when do they come in?—A. About the 1st of June I think.

Q. When do they spawn?—A. About the same time as spring salmon; perhaps a little later, about September.

Q. Do any of those return?—A. I have never seen them.

Q. Could they return without you seeing them?—A. I suppose they could.

Q. When do you knock off work?—A. About the 1st of August.

Q. And consequently as those fish would not be returning until later you would not see them?—A. Well, we could see some of them.

Q. Do you see any dead fish of this kind?—A. Well, not many; we do see them.

Q. Do you see any in a weak state and emaciated?—A. Yes; I have seen many of them up the river; they were just floating along; they did not seem to have strength to swim down.

Q. What is the average size of sockeye you can?—A. About six pounds.

Q. Then your fish are smaller than in other rivers; do you ever get above six pounds?—A. The average is about six pounds; we catch them sometimes seven or eight pounds.

Q. How many cans of fish will you make from each fish?—A. They run from 11 to 12 to the case.

Q. What might be the average number of your boats' take daily; in a big run say?—A. About 250 to the boat, and in a small ordinary run about 50.

Q. An average, then, of about 150, taking one year with another?—A. About that.

Q. Have you ever counted up the average of each boat for the season, the gross number?—A. From 2,000 to 3,000.

Q. What do you do with offal?—A. Throw it in the river.

Q. Does it create any sort of unpleasantness, or is it carried away immediately?—A. It is carried away every time; we have a six knot current that carries everything out to sea.

Q. Is any lodgment made on land below?—A. No; it is an iron-bound coast; we have no inhabitants except Indians.

Q. Are any complaints made?—A. I have never heard of any.

Q. And there are no white people there to affect?—A. No; there never will be; there is no agricultural or growing country that I know of.

Q. Should it not produce wealth and inhabitants?—A. It may in time.

Q. Then offal is carried away and causes no injury to anybody?—A. None at all.

Q. Are you satisfied with limitation of nets you have in regard to numbers?—A. Yes, sir; perfectly satisfied.

Q. What effect would it have if you were lessened in number?—A. It would make our fish more expensive, and curtail our work. You see we can only fish 10 hours in the 24, and only for two and a half months.

Q. Seines are not used, I think you say?—A. No, sir; they are not used.

Q. Do you know the effect of seine fishing compared with drift net fishing?—A. I don't know anything about it.

Q. What about the close season?—A. It would suit us all right at present if it was made movable to suit the tides. Now, sometimes when 12 o'clock comes on Saturday the tide is not suitable to go out, and often we have to knock off at 10 o'clock; this changes monthly, and we would like the time made to suit the tides; it would leave 36 hours close time just the same.

Q. Do your Indians fish on Sunday at all?—A. They will not fish on Sunday.

Q. You mean the whole 24 hours?—A. Till 12 o'clock Sunday night.

Q. Then the six hours after 6 o'clock on Sunday—they would not work because it is Sunday?—A. No, sir.

Q. Have you anything to say about an annual close season?—A. No; I have nothing to say about that.

Q. Do you think it advisable?—A. We do not need it up there.

Q. But for the community at large what would you say?—A. Oh, have one if it affects the community at large.

Q. If fishermen other than yourselves and Indians apply for licenses would you object to giving them to them?—A. No; we would not.

Q. Then it would be just to give all residents and British subjects a license if they wanted it?—A. Yes.

Q. What about the transfer of licenses; do you think it should be done?—A. No, I think not; I think they should not be transferable.

Q. But is it not a fact now you get licenses in Indian names?—A. They are really our own licenses; we pay for them; the Indians absolutely refused to pay for them.

Q. Then on the fees of licenses?—A. We are perfectly satisfied on that point.

Q. Should they be alike throughout the province or different for your river?—A. I think they should be general throughout the province.

Q. Have you anything further to submit, sir?—A. I cannot think of anything at present.

Q. You have no wants or complaints to make?—A. No; except that one question of close time. I would like to make it movable.

Q. Is the catch regular with your river—on and off years?—A. It is pretty regular throughout. We have no periodical failures at all.

Q. How long has fishing been carried on there?—A. Fourteen years. Of course, some years we have lighter years than others, but we have no periodical runs like in the Fraser River.

Q. Have you humpbacks entering that river?—A. Yes; largely. We cannot help catching them.

Q. When do they come in?—A. They come in with the sockeyes.

Q. And both are caught in the net at the same time?—A. Yes.

Q. And what do you do with them?—A. We can the sockeye, but throw away the humpback mostly.

Q. Are they very numerous?—A. Yes; very numerous. They injure the fishing very much.

Q. In what respect?—A. They spoil our nets. Last year they were so plentiful they would sink the nets.

Q. But fish, nevertheless, would be taken out of the nets?—A. Yes; they were fastened in the net.

Q. Would the quantity caught in the net per day be equal to the sockeye?—A. Oh, ten times over. We would probably catch twenty or thirty sockeye and two or three hundred humpbacks.

Q. And two or three hundred humpbacks are sacrificed to twenty sockeye?—A. Yes, sir.

Q. Have you any idea of what means could be instituted to prevent the destruction of such immense quantities of fish?—A. We would like to see them all destroyed.

Q. And this practice has been going on of destroying the humpbacks. Are they not diminished?—A. Well, there are some years when the humpbacks do not come in such numbers, and sometimes we do not see them at all.

Q. Are humpbacks larger than sockeyes?—A. No; they are a little smaller.

Q. When they come in from sea, are there humps on the fish?—A. No; it comes on afterwards.

Q. Humps are on male fish only?—A. Oh, male only.

Q. Is there another run after sockeyes and humpbacks?—A. Yes; cohoes. We never fish them. They are inferior to sockeyes.

Q. Are they inferior for domestic use?—A. Yes; they are inferior fish in every case.

Q. What is the colour of the flesh?—A. A light pink.

Q. Do they spawn about the same time as sockeye?—A. A little later.

Q. Then the only valuable fish, or the more valuable fish, is altogether a sockeye? You depend, as a canner, upon them for the bulk of your traffic?—A. Yes; that is the only one will pay.

Q. Are there any marks on the sockeye, between the male and female, so you can tell them?—A. No; it is later on in the season when we can tell them.

Q. By what distinguishing mark?—A. There is a hook on the lower jaw of the male.

Q. Have you ever fished anywhere else but in British Columbia?—A. I have fished on the River Restigouche.

Q. Is there any difference between spring salmon and Restigouche salmon in size, quality or appearance?—A. Skeena salmon are much larger; the qualities are about the same.

Q. And what is the average of Skeena salmon?—A. Twenty pounds.

Q. And is not the average in the Restigouche at the early part of the season twenty pounds?—A. No; not in the early part of the season.

Q. I may say I have fished Restigouche salmon myself and have averaged twenty-three pounds.—A. Yes, but you fished with a fly did you not?

Q. Oh, yes; I know the fly gets the big fish. May I ask have you tried to catch fish in your river with the fly?—A. Yes, but it has not been successful.

Q. The Restigouche only lately has been used for fly fishing—now it brings in ten, twenty, and thirty thousand dollars for fly fishing yearly—you should try and encourage

this here—I simply mention this to show that the salmon here are identical with salmon elsewhere. If the Americans were aware that you could catch salmon here with a fly they would come and you would do well with them.—A. They have plenty of salmon rivers of their own—the Columbia River is a better salmon river than ours.

Q. But is not the Columbia River muddy from the melting snows, etc., that come down from the mountains?—A. Well, our Skeena rises in the same way.

Q. Yes, but your waters are clear are they not?—A. Yes, they are.

Q. Is there any deep sea fishing in the neighbourhood of the Skeena River—are cod or halibut taken there?—A. No, not near the Skeena—there are good banks near the Skeena but it is not worked—it is only prospected as yet—the Indians get any quantity of halibut, in the vicinity of the estuary.

Q. And then the black cod?—A. Well, they are near the Queen Charlotte Islands.

Q. And the halibut—it has only lately been found out?—A. Well, the Indians have been fishing there for many years.

Q. Then there may be a great source of wealth near there for working up—what other fishes have you there?—A. There is the dog-fish valuable for its oil.

Q. Could not offal be used up for the same purpose?—A. Well, I don't think it would pay.

By Mr. Armstrong:

Q. Is there an oil factory up there?—A. I am interested in one myself.

Q. What becomes of the refuse from dog-fish oil?—A. Well, there is very little—the oil is tried out by steam and the refuse is thrown out.

Q. How long has it been working?—A. Last year was the first.

Q. Did you put up much oil?—A. 23,000 gallons.

Q. Did you think in the commencement of the industry that would be profitable?—A. I think so.

Q. What is the value of dog-fish oil?—A. 45 cents a gallon.

Q. Is the establishment carried on by canners or a company of others?—A. A company of their own.

Q. Where from?—A. Victoria.

Q. Do you use any other fish except dog-fish?—A. We use small ground shark sometimes.

By Mr. Wilmot:

Q. Is oulachon caught there?—A. Yes, quite extensively.

Q. Are herring plentiful along the coast?—A. Yes, I think they are.

Q. Has any attempt been made to utilize herring as an article of commerce?—A. Not just yet.

Q. Do you think as time goes on, herring might be sufficiently numerous to make it profitable?—A. Well, they will not compare with Atlantic herring—they are smaller fish.

Q. Mackerel is not known then?—A. No.

Q. Would you consider the introduction of mackerel a good thing?—A. I think it would if it could be successfully introduced.

Q. Have you any oysters there?—A. No.

Q. Any lobsters?—A. No; none.

Q. If oysters were introduced here and did well, would it be an addition to the fishery wealth?—A. Yes.

Mr. Dempster.—I may say that dog-fish oil is worth 45 cents in cans, but only 35 cents in barrels.

By Mr. Wilmot:

Q. Have you ever taken any shad in your waters?—A. No.

Q. Do you know they have been introduced in Pacific waters?—A. I have heard so.

Q. Shad have also been caught at the mouth of the Fraser River. I may mention that I am asking all these questions because this Commission is not only for dealing

with the canners' matters, but also for the purpose of finding out all information bearing on the question of the fisheries, etc., etc. Then this oil factory has proved successful so far?—A. Yes.

Q. And you propose continuing operations with the dog-fish and ground shark?—A. Yes.

Q. How far is it from your establishment?—A. About 60 miles. It is on Queen Charlotte Islands.

Q. My object in asking these questions is that if dog-fish can be profitably converted into oil, why could not offal be converted into oil and made a profitable article of commerce?—A. You must remember the dog-fish oil is much superior to salmon oil.

Q. Have you seen salmon oil?—A. Yes; we manufactured it at our cannery. We tried it, but it don't pay.

Q. Do you think then all this offal thrown away could be converted into oil?—A. I suppose it could.

Q. Are humpback salmon caught more numerously than dog-fish?—A. Oh, yes; dog-fish are caught with hook and line, and humpback with nets.

Q. What is the size of your dog-fish?—A. I should judge they would weigh 7 or 8 pounds.

Q. Then they are not larger than humpbacks?—A. The livers are almost all oil. About two-thirds comes out of the liver and one-third from the rest of the body.

Q. In your trials in regard to salmon oil, did you try the humpback at all?—A. No; not at all.

Q. Are not humpbacks a fat fish?—A. No; not as fat as sockeye.

Q. But there would be oil in them?—A. Oh, yes; but it is doubtful if they would pay.

Q. The reason I ask these questions is with the view of the department, if possible, suggesting the use of these humpbacks that are all now thrown away, and they may be converted into a useful article of commerce. Is there anything further, sir, you would wish to say?—A. No; nothing further.

Mr. JAMES L. RAYMOND, a native of England, 28 years in British Columbia, an accountant and resident of Victoria, was duly sworn.

By Mr. Wilmot:

Q. What do you wish to submit?—A. Well, I was asked so come here to answer any questions. I was manager of the oil factory for two years situated where the city of Vancouver is now.

Q. What did you convert into oil there?—A. Herrings.

Q. You tried any other description of material?—A. No; we had all the herrings we could use.

Q. Were herrings very numerous?—A. They were at that time.

Q. What was the result?—A. We lost $40,000 in two years and then shut it up.

Q. And for what reason: was it the markets?—A. It was due to the entire inability to dry the scrap.

Q. You take the oil off and then the scrap is what is left?—A. Yes; but we could not make any use of it; we could not dry it.

Q. I notice from a former witness that the refuse was very little?—A. That was from dog-fish, but then they try it out in a very different manner.

Q. Could you not do the same?—A. No, not with herrings; they would have all gone to pulp.

Q. Do you know of oil factories on the Atlantic?—A. Yes.

Q. You know of Menhaden?—A. Yes; but they run in summer time and the scrap is dried like soil, while we ran in the winter time and it was raining all the time.

Q. How about the oil?—A. There was no market for it in this country and it had to be shipped to England.

Q. Do not other industries have to ship their products to England, the canners, for instance?—A. Yes, but salmon tins do not leak; about 20 per cent of ours leaked out: it has to go through the tropics twice; it also has the effect of shrinking the barrels.

Q. Well, generally speaking, the trade coal oil is the most penetrating in the world, yet it is shipped all over?—A. Yes; but you can only get soft wood barrels in this country.

Q. Then your experiment was unprofitable?—A. Unprofitable; if we could have dried the fertilizer it would have been all right.

Q. Has the effects of the oil factory's operations driven away herring?—A. Well, I don't know; think it is steamers and pollution (population) (?) that has done that; it had no effect while I was there whatever.

Q. Then you attribute the absence of herring in the Sound to steam-boats and people?—A. Yes; the traffic; when we were there there were plenty of fish in the harbour: we failed the first year, and then an expert was sent out from the East and he put in a drier that he said would do but it utterly failed. I am talking of the scrap—he came out—a man named Demesque, and he put in an artificial drier, but it would not do; if it is not dry in twenty-four hours it commences to foment and you can do nothing with it at all.

Q. Well, the Ontario Agricultural Department says it can be made into a good thing? Have you read the recent article in the *Colonist* on the matter?—A. I have seen something about it, but you cannot dry it.

Q. But they say it can be worked up?—A. Oh, you can dry one ton of it all right in a day, but when you have ten tons to work up in a day you cannot do it.

Q. Well, now this is what Professor James says (Victoria *Colonist*, 20th February, 1892). These are his conclusions:—

"From the consideration of the whole question, I am of the opinion that the "manufacture of the refuse into fertilizer is strongly to be recommended, because—

"1st. It will thus utilize a bye-product that otherwise is a total loss.

"2nd. It will prevent the waters from being contaminated.

"3rd. Its proper management must tend towards a more healthful surrounding.

"4th. Its return to the soils of the farm will partly off-set the waste of our cities "by sewerage carried to the lakes and rivers.

"5th. If properly handled it will pay well.

"From the great importance of this question to the health of the community, the "welfare of the fishing industry and the progress of agriculture, I have endeavoured to "reply at this length."

It is also stated that the value of this guano in Ontario is about $34 a ton.—A. Well, I beg to differ from that entirely; I think we got $10 a ton for it, but we could not make it a success. We had to take tons of it out into English Bay to get rid of it; we built a scow with a false bottom and had to take it out there.

Q. Well, we have heard that the offal that was thrown in had prevented herring from going in?—A. I may say we got £7 10s. for some we sent to England, but it all depends on the quantity of ammonia and phosphates in it. We used to boil the fish in an open tank and then subject them to hydraulic pressure and if they did not dry in 24 hours, the ammonia all ran off and the fertilizer was destroyed.

Q. And you then say the trial of making fertilizer from herring was unsuccessful?—A. Certainly.

Q. Are you prepared to say the same thing would occur if oil and fertilizer were made from offal?—A. Well, I think the expenses of taking it to the factory would destroy all chance of profit. We got our fish for next to nothing. They cost us about 75 cents a ton on the wharf.

Q. But if this offal was delivered to you?—A. Well, somebody must pay for it. I do not think it would be successful. If the herring get the least bit bad the oil is spoilt and offal would soon go bad in the same way.

Q. Then is oil made instantly from dog-fish?—A. Oh, no; it of course takes a few hours.

Q. Do you wish to submit any other matters?—A. No; that is the only matter with which I am acquainted.

The CHAIRMAN.—We are much obliged to you, sir.

Mr. WILLIAM HENRY LOMAS, a native of England, resident in British Columbia for 29 years, a resident of Cowichan, an Indian Agent of the Federal Government, was duly sworn.

Before proceeding with this witness, the question arose upon a query of J. H. Todd and others present, as to whether or not Mr. Ashdown Green, a previous witness, had been sworn prior to his giving evidence. Several of the audience contended that he had not, although the Secretary on being appealed to and turning back to his notes of Mr. Green's testimony, found that he was on record as having been duly sworn—still, in view of the doubt entertained by some, the Chairman gave instructions for the recall of Mr. Green on the following day to settle the point in question.

By Mr. Wilmot (to Mr. Lomas):

Q. What do you wish to submit to this Board?—A. I would like to say a few words in regard to the oyster fishery, but before doing so, I would like to say something of Cowichan River omitted by Mr. Green, through, I believe, want of knowledge of the river. Some four or five years ago the sockeye were put in the river two years running, some four or five millions were put in and certain numbers have returned; they go to the head of Cowichan River.

Q. How long ago is that, sir?—A. About four or five years. They were never known there before, but now they are in small quantities, hundreds of them but not near so many as you see of other fish.

Q. Then you consider that the result of planting them there artificially has this effect?—A. Yes; and I may say they are found several miles up river beyond their spawning ground.

Q. And thus I suppose these little fellows have gone off hunting homes for themselves.—A. They went down first, sir,—of course they went down.

Q. And were any quinnat put in the river?—A. No; not at all.

Q. And then you think it sufficient proof that artificial breeding is successful—that it is proof of the hatchery success?—A. Oh, certainly—I may say the Indians were so surprised at seeing them there they brought the first one to me.

Q. What size was it?—A. Oh, a five pound one.

Q. Have you anything else to say on this matter?—A. Well, Mr. Green spoke of fish returning, but I believe no salmon return except the steel-head, and that I think is more of a trout.

Q. You are practically acquainted with the character of the steel-head?—A. Yes.

Q. Would you give us a description?—A. They grow quite as large as quinnat and run in December, about Christmas time—say from end of November to January—it depends a great deal on the state of the river. The Cowichan is so low that large fish cannot run up—the steel-head never come into the bay until the other fish have gone up—they wait until dog-fish and cohoes have gone, and then after about a week or two they go up too.

Q. Why are they called "steel-heads"?—A. It is the fishermen's name for them—Indians have another name altogether.

Q. And they are about the same as spring salmon?—A. Yes; very similar when they come in—when they go back they are long and narrow—they lie in the river all summer and then go out in the fall.

Q. They come in when you say?—A. About December.

Q. And what is the time when they spawn?—A. I should say about March, but you can find them in a great many of the pools all through the summer.

Q. Are they salmon or trout?—A. Well, Mr. Green calls them trout.

Mr. WILMOT.—Is Mr. Ewen here? Mr. Ewen.—Yes.

Q. May I ask you, Mr. Ewen, if the salmon we saw in New Westminster the other day on the slabs at the market—were they steel-heads?—Yes.

Mr. Wilmot.—They are identical to my eyes with Atlantic salmon.

Mr. Lomas.—They will take a fly freely.

Mr. Wilmot.—Well, it is a peculiarity, certainly, I must say.

Mr. Ewen.—I may state that when they are seen in the Fraser River—when they are in good condition—it is from end of July and in August and September—the next year they scarcely get down in condition and you are liable to get them in all stages throughout the year.

By Mr. Wilmot:

Q. Well, these we saw were so regular in symmetry and so bright in colour that I thought they were exactly like the Atlantic salmon—we had one sent to the hotel and had it for dinner, but it was a very poor fish—not at all nice—and yet its appearance was very prepossessing—it may of course have been in the cooking, but some gentlemen sitting at the table with me said "what a poor ordinary fish." Then the steel-head you do not consider the true salmon?—A. No—I do not think them true salmon.

Q. But they return?—A. Yes; in full force.

Q. And other fish all die?—A. Yes; all die—I am perfectly certain that cohoes and dog-fish never return—some of the spring salmon may.

Q. Did you say you saw some sockeye return?—A. I saw some up at Cowichan Lake, but I could not say about them returning.

By Mr. Armstrong:

Q. How far is it from the lake to the river?—A. The river is about 23 or 24 miles long, and the lake is about the same length; they were planted in a little stream off the lake; the trout also spawn there, but they do not spawn until March.

By Mr. Wilmot:

Q. Now, on the subject of the oyster?—A. Well, I wish to say for the last five or six years I have been writing to the department, asking them to make some provision for protecting the oysters. At Oyster Harbour there is a great many oysters, and they have been fished very much. A man there has no title to any place, and fishing goes on every month in the year.

Q. And you think oysters were very plentiful there?—A. Yes; and many beds are now depleted.

Q. And these effects have been brought about by over-fishing?—A. Yes; that is the effect with regard to oysters.

Q. And would it not apply to any other fish?—A. Yes; I suppose it would. The oysters are taken along shore to be cleaned; they scrape all the spat off and let it lie on shore, that should have been left on the beds. I sent a bag of them to the department to show how they were being destroyed.

Q. Then you think there should be a protective season for oysters?—A. Yes; there should be.

Q. And who would that effect?—A. A few whitemen and Indians.

Q. And with the desire to enforce a close season and judicious regulations the Government is brought directly in contact with those who carry on that work?—A. Oh, no; I do not see it that way. Every one who is interested in the oyster fishery wants to see it protected and improved.

Q. And are native oysters in much demand?—A. Oh, yes; it is considered a very fine oyster.

Q. The present mode in the United States and Canada is to give persons licensed areas.—A. I may say that a few years ago a pamphlet and circular was sent to us and was signed extensively, and the Government was asked to lease areas, etc., but no reply has been received.

Q. Who was the prominent man in sending it?—A. Mr. Connolly; it came directly from the department.

By Mr. Armstrong:

Q. Then you want the Government to survey the beds and let them to persons to cultivate?—A. Yes.

Q. And the oyster is a good article of food, is it?—A. Yes; it is a very good oyster.

Q. Well, sir, this matter will be recorded on the minutes and brought forward, and I think the matter will not be allowed to rest entirely.—A. There is another matter, Mr. Wilmot: these small fish, the flounders and smelt; no regard seems to be paid to them at all. The men who fish for them do not have to get any license or anything. In fishing for these small fish they invariably drag their nets on shore, and great numbers of little fish are left there to die. That matter has been brought to the notice of the Government by the harbour master of Victoria, but nothing seems to have been done.

By Mr. Wilmot:

Q. Well, but I do not understand that. The regulations distinctly say: "Fishing by means of nets or other apparatus, without leases or licenses from the Minister of Marine and Fisheries, under the provisions of Chap. 95, Revised Statutes of Canada, and Section 4 thereof, is prohibited in the province of British Columbia."—A. But these men have applied for licenses from time to time, and replies have been received that no licenses were required except for fishing for salmon.

Q. Are you agent of the department also?—A. Yes, I am. I could get you plenty of letters on this matter and giving these answers. I am sure there are plenty of men who would be willing to pay double the license fee if they could get a license to fish for the whitefish, flounders, etc.

Q. What kind of mesh do they use?—A. They use a small mesh dragging on the bottom.

Q. Well it is considered in the department that it was extremely injurious to use these small meshed nets as they were considered to destroy the small salmon and other young fish that may come along; the duty of an officer who saw these nets fishing would be to seize them, because it is contrary to law, but an officer has brought it to the notice of the department and it is now under consideration. And so you think this fishing for small fish is injurious?—A. Yes; because the small fish are left on the shore.

Q. What kinds of fish would be taken out to supply the market?—A. Oh, any fish; unless those little ones of an inch and an inch and a half long.

Q. Then the regulation of the mesh would settle matters would it not?—A. No; you could not catch smelt or herring with such small mesh.

Q. How would you prevent the destruction of these small fish, then?—A. Not allow them to drag them on shore.

Q. And the fish that are larger could be taken out before they come in shore?—A. Yes.

Q. What sized mesh would allow of the escape of these smaller fish?—A. The fish that I allude to would escape from almost any mesh, but it is the dragging them ashore that causes injury.

Q. Do they get gilled in these nets?—A. Yes; but not extensively.

Q. I think that is the same experience in seine fishing, they run towards the shore and thus get drawn in the net, that is the experience is it not?—A. Yes. Now, a gentleman was saying the herring had left Vancouver. Now, herring will leave a place and go away for some time, and it is not on account of the steam-boats, for I was in Nanaimo Harbour and there were a great number of them and perhaps in a year or two there may be no herring in Nanaimo and they may be in Cowichan. Places where the Indians have been in the habit of going they find none at all.

Q. They are very erratic then, I presume, in these waters. Regarding oysters, was it suggested that spat from the Atlantic should be sent over?—A. No; they considered these native oysters were quite as good if cultivated. Some persons have tried it by taking them and putting them at the mouths of streams, etc., and have done very well.

Q. Have you anything further to add, Mr. Lomas?—A. Oh, I don't think so.

Q. Have you anything to submit in regard to any other of your fisheries?—A. No: I would simply suggest that the improvement of the oyster fishery be attended to and that persons who fish on the coast should have licenses to do so and not be allowed to drag the nets ashore.

Q. Have you lobsters here?—A. No.

Q. Crabs?—A. Yes.

Q. Numerous? A. Yes; but there is not any great demand for them.

Q. Have you ever been on the Atlantic coast?—A. No.

Q. A project is on foot to introduce the lobster here, and I merely mention it so, that if you had been on the Atlantic coast you might wish to give us some information on it? These small fish you speak of—what are they?—A. Some smelt and little fish like sardines—the smelt is about the same size on the east coast, but the herring over near Behring Sea are reported to be quite as large as Scotch herring.

Q. But there is no export trade in herring?—A. No; there is quite a demand for the small species—flounders and soles.

Q. Do oulachon frequent this coast?—A. No—not in any quantities.

Q. Would not these small fish be young herring?—A. Oh, yes; some are young of trout—some of herring—some of salmon.

Q. And it is very destructive to drag up these nets on the beach?—A. Oh, yes.

Q. I may say that was the opinion in the department after the receipt of letters from yourself and the inspector—that it was most dangerous to allow these nets to be dragged on shore.—A. I having nothing further to say, gentlemen.

Mr. J. H. Todd.—I would like to ask permission to make a further statement as evidence before the Commission adjourns.

Mr. Armstrong.—Oh, yes; we have nothing else better to do.

Mr. Todd (indignantly).—Oh, I don't want to say anything—I think it quite a slur to say you have nothing better to do.

Mr. Armstrong.—Oh, no; I assure you, Mr. Todd, I did not mean anything of the like at all—why you Victoria people are awfully sensitive—I am sure I meant no slur whatever.

Mr. Wilmot.—What did you wish to represent, Mr. Todd?

Mr. Todd.—What I wanted to say was simply about the offal. There is an impression among many people that this offal can be used profitably—now, I just want to say that if some of these experts will come here and manufacture this stuff up, we will be glad to have him and we will even give him a bonus to come and take it away and work it.

Mr. Robert Ward.—I would like to ask, Mr. Chairman, if your Board will receive second evidence from any witness who has once been heard?

Mr. Wilmot.—Well, I may say, Mr. Ward, that although the rule was that no second evidence would be taken, still, if Mr. Ward, or any other gentleman came forward and desired to give evidence I have no doubt my brother Commissioners would be quite willing to hear anything they have to say.

At 4.45 p. m. the Chairman declared the Commission adjourned—to meet again at the same place at 10 a. m., 5th March, 1892.

Victoria, B.C., 5th March, 1872.

Morning Session.

The Commission assembled for the hearing of evidence in the Board of Trade Rooms at 10 a.m.

Present: Mr. S. Wilmot, Chairman; Hon. D. W. Higgins, Mr. Sheriff Armstrong and Mr. Secretary Winter.

After calling the Commission to order, the chairman read the following communication which he had received from Mr. W. H. Lomas, Indian Agent at Cowichan, in reference to the protection of oysters in British Columbia:

Oriental Hotel,
Victoria, B.C., 5th March, 1892.

Dear Mr. Wilmot:—Enclosed you will find copies of the letters you asked for. Trusting they may give you information on the oyster subject likely to be acted on.

I am, dear sir, yours truly,
(Signed) W. H. LOMAS.

S. Wilmot, Esq.

The enclosures were then read by the Secretary as follows:

Cowichan Agency,
Indian Office, Quamichan, B.C., 27th February, 1892.

Sir,—Referring to your letter of the 15th inst., enclosing copy of report from Mr. Inspector McNab, to the Deputy Minister of Fisheries, "complaining of manner in which oyster beds in this province are worked by the Indians."

I have the honour to state that during the last six or seven years I have repeatedly called the attention of the Fishery Department to the necessity of making some regulation with regard to the gathering of oysters, especially in Oyster Harbour, in which place the largest beds exist.

In the year 1888, I wrote to the late Mr. Inspector Mowat, and at the same time forwarded him by parcel post, a sample of oysters as they are being shipped to market (not by Indians, but by the very white men who are now complaining of the action of Indians.) In the spring of last year, a printed form of petition which I received from the Fishery Department, was signed by nearly every land owner in the neighbourhood asking that the Government put a stop to oyster gathering for a few years and take steps to restock the beds. I enclose a few extracts from letters written on the subject, and have the honour to be, sir,

Your obedient servant,
(Signed) W. H. LOMAS, *Indian Agent.*

Quamichan, B.C., 11th Dec., 1888.

Sir,—I have the honour to forward you by parcel post a sample of the oysters being shipped to market, by which you will see that the oysters are being run out.

It is of little use telling me I ought to prosecute any one guilty of violation of the Act, when in the next paragraph you say that the department has made no regulations for oyster fishing in this province.

I am informed that about $1,000 worth of oysters have been shipped from Oyster Harbour during the last twelve months, and this, as I have before informed you, goes on during every month without regard to the breeding season, and without any attempt to cultivate them. I watched the operation last week, and find the oysters of any age carried ashore and there trimmed for market, instead of being divided over the water and the yearlings and spat dropped back into the water to grow.

Parties gather wherever they choose, and therefore have no interest in the improvement of any particular ground, and the result will be that in a year or two this industry and source of food will be entirely destroyed.

Trusting that you may see the necessity of having suitable regulations made to apply to this province.

I have the honour to be, sir,
Your obedient servant,
(Signed) W. H. LOMAS,
Fishery Guardian.

THOS. MOWAT, Esq.,
Inspector of Fisheries, New Westminster.

QUAMICHAN, B.C., 9th Dec., 1890.

SIR,—Referring to your letter of the 5th inst., just received, I have the honour to report that the destruction of small fish complained of by Capt. Clarke, harbour master, Victoria, is not only going on in Victoria, but also in other places. I have several times called the attention of the department to this fact, and also the destruction of the oyster beds ; but the only notice taken of my reports has been to make regulations with regard to salmon and trout, which it is almost impossible to carry out.

I would respectfully refer you to my letters of 5th of January, 1889, and 17th January, 1889.

I have the honour to be, sir,
Your obedient servant,
(Signed) W. H. LOMAS,
Fishery Guardian.

THOS. MOWAT, Esq.,
Inspector of Fisheries, New Westminster.

QUAMICHAN, B.C., 17th Feb., 1891.

SIR,—I have the honour to inform you that as soon as possible after the receipt of your communication of the 28th ultimo, I visited Oyster Harbour, and met the only two white men fishing there (Mr. D. Page and Mr. John Brenton), Messrs. Brown and Isom having left the neighbourhood, may be considered as having withdrawn their application for oyster fishing licenses.

Messrs. Brenton and Page say they are not able to get half the quantity of oysters this year that that they did last year, and that the beds are nearly run out.

When application was first made to you for licenses, a kind of mutual agreement was made between these two men and the Indians, and each piece applied for was staked off in my presence ; but, on recent visit, I found both Mr. Page and Mr. Brenton gathering oysters from that portion of the harbour applied for by the Indians, and Mr. Page's statement that he has planted oysters for the last five years does not mean that he has cultivated them, but taken them from the front of the Indian reserve and planted them near his own land.

Messrs. Brenton and Page wish me to say that they agree with the clauses of the petition, but do not think that they are justified in signing it without knowing what the regulations will be, and whether the department will be willing to take the matter in hand at once.

Should you think it advisable, I will circulate the petition in the neighbourhood of Oyster Harbour, and I feel sure that nearly every person interested will sign it, as all regret to see the state to which these once productive beds have been allowed to get.

Messrs. Brenton and Page would gladly sign it I believe, if they were assured that they would have the prior right to a lease fronting their property.

I have spoken also to the Indians and they are agreeable to the department taking the matter in hand, but think they ought to have some portion of the harbour set apart to them when the proposed restriction is taken off.

With regard to the standing of the parties named, I may say they both live with Indian women, and I do not think either of them would go to the expense of having the beds they apply for surveyed, let alone spending anything beyond their own time cultivating oysters. The harbour is about five miles long by about three-quarters of a mile wide. Trusting the department may see fit to restock these beds and make the necessary regulations for the better protection of oysters,

I have the honour to be, sir, your obedient servant,

(Sgd.) W. H. LOMAS,
Fishery Guardian.

THOS. MOWAT, Esq..
Fishery Inspector, New Westminster.

LEONARD MARTIN, of Victoria, describing himself as of French descent, born in Russia, nine years in British Columbia, a fisherman, was duly sworn.

By Mr. Wilmot :

Q. What have you to put before the Commission ?—A. Well, sir, I enquired a few years ago and wrote to Mr. Mowat to ask him to give me a license to fish in deep water, but we were not allowed to fish, and here is the answer from Mr. Mowat about it :—

"NEW WESTMINSTER, B.C., 10th November, 1890.

"LEONARD MARTIN, Esq.,
"48 Johnston Street, Victoria, B.C.

"SIR,—In reply to your letters of September 26th, October 15th and November 4th, I beg to state that my office here has been closed for a month while I have been capturing fish and collecting salmon ova—there has been no assistant, hence the cause of no reply having been sent you. I now herewith return your post office order for $5, as we issue no license for fish other than salmon. It is, however, unlawful for you to use a bag-net. I herewith enclose you a copy of the Salmon Fishing Regulations and a copy of return to be filled in for the fish caught or sold during the season and return to me for Government purposes. All other regulations in reference to the fisheries in this province can be had by consulting the Fisheries Act.

"(Signed.) THOMAS MOWAT,
"*Inspector of Fisheries.*"

Q. Then you did not get a license and got your $5 back ?—A. Yes, sir. And then about ten months ago I went to Quallass Inlet and fished, but they fined me $22. This is the receipt was sent me for the fines :—

"DUNCAN, B.C., 3rd April, 1891.

"DEAR SIR,—I beg to acknowledge the receipt of notes value $22 in payment of fines imposed upon yourself and T. Bengourd, and costs, for contravention of the Fisheries Act.

"(Signed.) H. O. WELLBURN,
"*Government Agent.*

"LEONARD MARTIN, Esq.,
"48 Johnston Street, Victoria, B.C."

Q. Then you did fish and they thought it contrary to law and you were fined ?—A. Yes ; I went up to the bay and two other places, and was not allowed to fish in North Saanich—I was not allowed to fish—I only supply the city, and we have only four boats and when the water is very rough we cannot go outside. We are willing to pay—we don't want to live on the country without paying proper fees—we are willing to pay license as long as they allow us to fish in salt water.

Q. Then you see this letter is in November, 1890, in which he sends back the $5 for license—well, the Order in Council of March, 1890, says fishing by means of nets or

other apparatus without leases or licenses from the Minister of Marine and Fisheries is prohibited in all the waters of British Columbia. It seems then he sent his $5 to get a license.

Mr. HIGGINS.—Well, you see from section 4, of the Fisheries Act, which says :—

"4. The Minister of Marine and Fisheries may, wherever the exclusive right of fishing does not already exist by law, issue or authorize to be issued fishery leases and licenses for fisheries and fishing wheresoever situated or carried on ; but leases or licenses for any term exceeding nine years shall be issued only under authority of the Governor in Council."

This gives the Minister and the Governor in Council power to give leases and licenses.

By Mr. Wilmot :

Q. But, what was your application for?—A. For fishing small fish—herrings, flounders, and small fish to supply the city fish market—we do not fish for the canneries —sometimes, of course, we get some salmon. We use a net 50 fathoms from shore.

By Mr. Higgins :

Q. What net do you use?—A. A bag-net.

Q. Well, that is prevented by law?—A. Well, we cannot catch any fish if we cannot use a bag-net—we cannot catch anything.

Mr. WILMOT.—Well, but if the Minister thinks proper to admit of special licenses being issued or an Order in Council passed that would allow it, he can do so—but it does not seem as if any order was passed. (The chairman here read over the Regulations for the province of British Columbia), and continued :—You see, Mr. Martin, these say he issues no other licenses except for salmon.

Mr. HIGGINS.—Well, who does issues them then?

Mr. WILMOT.—Well, they never were issued, and the special permission of the Minister is necessary—I may say that it was represented to the department that these bag-nets kill great numbers of young and immature fish, and it is considered that such fishing implements should not be used.

Mr. HIGGINS.—Well, how are they to get these small fish?

Mr. WILMOT.—They can catch them with small meshed seines, but when it is necessary, application being made through the proper channel, I presume the Government would promote an Order in Council in reference to that matter—but the representations made were that fishing with bag-nets was most injurious, as it took great numbers of small herring and other fish and these small fish were dragged ashore and they decayed in great numbers, and I think the evidence of Mr. Lomas yesterday corroborates that in every particular.

Mr. HIGGINS.—Well, why could they not be prohibited from putting these small fish on shore, but not shut down altogether on them. If we over-load these fisheries with restrictions they will never do anything with them at all.

Mr. ARMSTRONG.—Were you here yesterday, Mr. Higgins, when Mr. Lomas was giving evidence on this point?

Mr. HIGGINS.—No.

Mr. WILMOT.—Well, the evidence yesterday was most conclusive that large numbers of these young fish were destroyed.

Mr. HIGGINS.—Then you will catch no small fish?

Mr. WILMOT.—Well, unless the small mesh net was used and no small fish be dragged ashore. While we are on that subject, I might state that when it was represented to the department it was said that it was not more right for them to throw away these small fish in great numbers than for the canners to throw away so much offal, etc.

Mr. HIGGINS.—Well, but in the meanwhile what are these men to do?

Mr. WILMOT.—Well, it would not do for me to say what they might do in an official capacity.

Mr. HIGGINS.—Well, but something should be done. Have you ever heard of waste in Esquimalt and Victoria Harbours, Mr. Wilmot?

Mr. Wilmot.—Well, I do not know, but I think those were mentioned, and representations were made that small salmon were brought in weighing one, two, and three pounds, and these are observable, I think, on the markets every day—Mr. Lomas has been a fishery officer for some time and appears very intelligent and he thinks them young salmon. (To witness.) Well, you say you were refused licenses and afterwards fined for fishing?—A. Yes, I was refused license and then was fined.

Q. It is a bag-net you use?—A. Yes; we use it about fifty fathoms from shore. The mesh is about two and a half to three inches, and the bag is one inch mesh, and small salmon can go through; then it is about forty-five to fifty fathoms long.

Mr. Wilmot.—Well, an inch mesh would take everything that came along.

By Mr. Higgins:

Q. Are you fishing in the harbour now?—A. No.

Q. Where do these little fish come from we see in the market?—A. From Cowichan and from other places.

Q. Where do the oulachons come from I see here now?—A. From Tacoma and along the Sound.

Q. Is it only oulachons they bring?—A. Well, we generally fish out here and get herrings, soles, flounders and small fish; but now we get very few, because we cannot fish with bag-nets.

Q. Do you know the fish salmon trout?—A. Oh, yes. I know speckled trout and salmon trout and young salmon.

Q. Are they the same fish?—A. Oh, no; they are altogether different.

By Mr. Wilmot:

Q. What would be the size of these small fish?—A. Oh, about the size of herring and smelts; they are all small fish; if we don't use bag-nets we cannot catch them.

By Mr. Higgins:

Q. Do you leave these young fish on the bank or not, or do you leave any fish on shore?—A. Well, sometimes half a bag or so. Last year at Esquimalt there was some left on shore; last year we were fined in Victoria for leaving small fish on shore; they thought it unhealthy.

Mr. Wilmot.—If my brother Commissioners will not think it intruding on my part, I will present to them the exact size of the mesh used (proceeding to show Messrs. Armstrong and Higgins by diagrams drawn on one of the departmental files). The half inch mesh will take all little fish of every kind, and the complaint is that large numbers of these little fish are cast on shore and decay.

Mr. Higgins (to witness).—Q. What were you fined for at Cowichan?—A. I was fishing for bottom fish. Mr. Lomas came down and told me I could not fish without a license in Cowichan, and I told him I sent to Mr. Mowat for licenses and sent the money, but I got none; so he seized my net and I was taken down before Mr. Edwards and was fined. It is pretty hard when a man sends the money to the Government to get a license, and then to be fined because he hasn't one.

By Mr. Wilmot:

Q. What fish do you catch?—A. Herring, rock cod, tommy-cod, ling, flounders, soles—all kinds of small fish.

Q. What is the probable size of the flounders you catch?—A. From one to six and eight pounds.

Q. What is the size of a one pound fish?—A. Oh, about five or six inches long; it is very flat and a very light fish.

By Mr. Higgins:

Q. Do you fish with a seine now?—A. Yes, sir.

Q. And you do not catch many fish?—A. Nothing at all.

Q. It don't pay you?—A. No, sir. I am behind about $22 or $24 in the last two months.

By Mr. Wilmot:

Q. Have you the sole here proper?—A. No; that is the name of it; but there are very few English soles; some average about a pound or a pound and a half.

Q. What is the size of smelt?—A. Well, between five and six inches long. Some may be a little longer.

Q. What size herrings?—A. From six to seven inches.

Q. The rock cod?—From two to five pounds.

Q. And your ling?—A. Between two to seven.

Q. Is ling cod the same as ling?—A. No; it is different. It is green.

Q. What is the size of ling?—A. About three or four pounds, I think.

Q. Now, there is not a single one of those fish that could not be caught as readily in three and one-half inch mesh as with a half inch mesh?—A. No, sir; you could not. Smelt and herring would go through.

Q. But these flounders, and herring, and rock cod, and ling, are all good sized fish?

Mr. Higgins.—But you would never get those in a seine; there should be some special regulation for this fishery.

Mr. Wilmot.—But it is evident that this half inch mesh kills many little fish.

By Mr. Higgins:

Q. Do you ever cast your net up Victoria Arm?—A. Yes.

Q. What do you catch there?—A. Oh, some herring; but they won't let us fish there now.

Q. They say herring have disappeared from the Arm?—A. Well, some gentlemen have some trout there, but generally the herring goes up there, and in winter time they go into the same inlet. They won't let us fish; we cannot get any herring. There is no halibut in the market.

Q. Where do you catch halibut?—A. Oh, outside in the straits. They are very scarce.

Q. Is there any particular bank where you catch them?—A. Yes; there is a bank near here, and another one not far away.

By Mr. Wilmot:

Q. You did not say, when you were giving descriptions of fish, whether you ever caught any others—any trout?—A. No, sir; I do not remember any—not in four or five years. I never caught any.

Q. Any young salmon?—A. Yes; in Saanich. Three of them—about two and a half pounds.

Q. Any smaller than that?—A. No; I never noticed any.

Q. Could you distinguish between a trout and a salmon that might be six or seven or eight inches long—could you tell the difference between them?—A. Yes; I think so.

Q. And you say you have never caught any trout or salmon about that size?—A. No, sir.

Mr. Wilmot.—I think if the matter was properly represented to the department about this fishery, it would no doubt be considered, but the matter has never been brought before them, except that they were killing young and immature fish of every kind, hence the department thought it proper to disallow it, since licenses have been issued for nets with mesh three and a half inches square—they would catch most all fish mentioned here except herring and smelt. Herring nets are specially allowed in some parts of the Dominion, when applied for.

Mr. Higgins.—Perhaps some of the other gentlemen here might have some suggestions on this matter. Has any one any suggestion that would assist the Commission?

Mr. Ewen.—I have; but I would like to ask the witness a question.

Mr. Armstrong.—Well, no; let him suggest it properly. I will not agree to that. Persons getting up in any part of the room—I will not have it. Let him put questions through the Commissioners.

Mr. Ward.—Oh, privately. Then this is not a public inquiry at all.

Mr. Higgins.—Come, Mr. Ewen, let me know your question. I will not be insulted by being asked a plain question by an honest man. Come and sit by me and let me know what you want. (Mr. Ewen seated himself beside Mr. Higgins and communicated to him his wishes.)

Mr. Higgins (to witness).—Q. Could you catch these small fish, such as flounders and ling, herring, smelt, etc., except in bag or pouch nets?—A. No, sir.

Q. Not in any that size?—(Showing diagram of mesh.)—A. No, sir; ling goes through.

Q. Could you catch it in this?—(showing diagram 1 and 1½)—A. Yes, I could; I consider the small fish have plenty of chance to go through before they come to the bag. Now, I was trying to catch some herrings by gilling, but I could not catch them; in one whole night perhaps I would get one bag.

Q. Well, it is pretty evident from what Mr. Wilmot says that the net will catch everything that swims?—A. Well, when you get to shore they have chances to get away. There is 50 fathoms of net, and in hauling it in there is plenty of chance for the small ones to get through the mesh and escape.

By Mr. Wilmot:

Q. Well, I think the whole thing is in a nut shell. I don't see any object to use a seine for catching your bottom fish with mesh one and three-quarters inch square, because it will take every fish you have enumerated there, and with a gill-net you could catch larger ones?—A. Well, no, sir.

By Mr. Higgins:

Q. But you have said that this mesh would do, and it would let small fish get away. Now I have noticed myself that the nets used in the Arm would catch small fish, but there they let the small fish go. Can you haul these pouch nets when hauling them on shore?—A. No; it is impossible.

Mr. Wilmot.—You will understand too, Mr. Commissioners, that very serious complaints have been made both here and at New Westminster about catching small salmon, and here is the same thing where the small fish of other species are caught and thrown on shore.

By Mr. Armstrong:

Q. If you catch a great number of fish can the small fish get through before you get them on shore?—A. Oh, yes, sir; the fish go through in all directions; on the sides and the back. Fish go to the back and stay there; but there is plenty of chance for the little ones to get away.

By Mr. Wilmot:

Q. Is it a drag-net or seine — when hauling in the seine the fish—do they run from the seine towards the shore?—A. Yes, sir.

Q. And then when near the shore they are all huddled together, and they cannot escape?—A. Yes, some; if they get in the bag of course they cannot escape; but the thing is all open, and in going to the bag they have plenty of chance to get out.

Q. It is just as well this matter should come up, as it has undergone a good deal of discussion, and it is beneficial to have this information.

By Mr. Armstrong:

Q. Do you know of any other fishermen who would come here?—A. Yes; there are many fishermen, but I think they are all out prospecting for fish. There are no fish in the markets, and they are trying to catch them. Then there is another man who was fined for fishing in Cowichan; it cost him $175; he was fined just like I was.

Q. Could you bring him here?—A. No; he has gone to Cowichan.

By Mr. Wilmot:

Q. Did you have any knowledge of this Commission sitting to investigate these matters?—A. Yes; I heard of it, and I thought I would come and make complaint about it. We cannot fish, and have to keep our families, etc.; it is very hard.

Q. When did you hear of the Commission sitting?—A. I heard when it was in Westminster.

Q. Was it talked over by the fishermen?—A. Yes.

Q. And why don't they come?—A. Well, they thought I could speak better English, and they thought I should come and tell you about it.

Q. Then you are representing others; other fishermen?—A. Yes; I speak for all.

Q. How many other fishermen are there here?—A. About 10 or 12 men.

Q. What countrymen principally?—A. Some are Italians; some Austrians; some Greeks; all nationalities.

Q. Have you ever become a British subject by taking the necessary oath?—A. Yes, I have.

Q. Is that the same with other fishermen?—A. Yes; every one. We all have to become British subjects.

Q. And you have taken the necessary oath which makes you British subjects?—A. Yes, sir.

Mr. Higgins.—I wish you would step down to Vienna's market and ask him to come up at 2 o'clock this afternoon, and come back and let me know if he will come, for if not we will issue a subpœna for him.—A. Yes, sir.

HENRY BELL-IRVING, a native of Scotland and resident of Vancouver, in British Columbia since 1883, a merchant, was duly sworn.

By Mr. Wilmot:

Q. Have you anything to submit, Mr. Irving, in regard to these matters relating to the salmon or other fisheries of British Columbia?—A. Yes; I am largely interested in the canning industry myself personally, and as Chairman of the local Committee of the Anglo-British Columbia Packing Company. I am agent for that company.

Q. Is that the English syndicate, sir?—A. Well, it is not correctly termed an English syndicate, because there is a large proportion of the capital that has been subscribed in this country. I believe it is named the English Syndicate, although there is another one earlier than ours. I may say the headquarters are in London. We own nine canneries on the Fraser River and two on the Skeena River; these canneries have each a capacity of about 20,000 cases. I have read over some of the evidence on my way here, but as I only arrived from England the day before yesterday, I am in ignorance of a good deal that has been done. I see, however, that one witness, a man who I believe has not a cent invested in the cannery business, ventures to give as his opinion that ten licenses were sufficient for each cannery; if he had any money in the canning business he would think otherwise. At the commencement of the season I should think each cannery requires from 50 to 60 licenses, I mean to say they can take the fish from 50 to 60 boats, a week later perhaps 40 would be enough; in the height of the run from 20 to 25 would be enough for a very few days just in the height of the run. The market has been crowded and the business has been worked up by the canners and by the agents for the canners, by their pushing their business in other countries and selling fish and increasing the market and inducing people to purchase, and they have a large amount of money invested in the business, and I think it entirely unfair that fishermen should now come in and say we want half of the licenses that are on the river; we want you canners who have practically worked up the business to what it is and made a market; we want to deprive you of the means of fishing and the licenses to be handed over to us. I should think it would be sheer robbery to deprive the canners of the licenses that have recently been given to the canners. I think you might as well take timber limits and hand them over to the loggers as take licenses from the canners. The welfare of fishermen is of considerable account to canners, they wish to treat them well, but do not want to be entirely at the mercy of the fishermen. Canners have to look forward very far ahead and make arrangements for their season's work. We have now ships on the way from England with large supplies; we have even bought supplies for 1893, which is a long way ahead, and now not knowing the number of

licenses that will be issued we are working on a very precarious basis, and I think the regulations should be put on a permanent basis so we could calculate with a fair amount of certainty on what materials would be wanted. As to weekly close time, I think the present regulation works very satisfactorily, that is from 6 a.m. on Saturday to 6 p.m. on Sunday, practically the Sunday is not violated ; the residents are not disturbed by any noise or anything ; it is only on Sunday evening the fishermen start out and fish all night. If fishing was continued on Saturday and Saturday night, we would have to work on Sunday, and therefore, I think the present close time cannot be improved upon. Then the annual close time, I think, might be left as it is. I think it a very good limit from 1st March to 25th August for $5\frac{3}{4}$-inch mesh.

Q. Do you think five and three-quarters inch mesh correct?—A. Yes ; I think so —that is for sockeye. This limit I am speaking of up to 25th August. We fished to 31st August this year, and I may say at the very end of the month there was a big run of fish ; the time was extended, and we had quite a lot of work, and after the 31st of August there were millions of sockeye running, but they were not in as good condition for canning as the earlier fish.

By Mr. Wilmot :

Q. Should five and three-quarters inch mesh be the minimum mesh?—A. The same as now ; that is, the same regulation be continued.

Q. But you may have them as much larger as you like?—A. As much larger—yes. I may say I have just come back from England and have seen some of the principal dealers of salmon there, and they prefer the sockeye salmon altogether. You cannot convince them that the spring salmon is a better fish. They must have red fish and red oil. I was very pleased to see that the demand in the English market is going rather now from the Columbia River fish to the Fraser River fish. I take it that is because canners have given more attention to careful packing in the last year or two, and only packing the first quality of fish. They all insist upon having good quality of fish packed. They said : "If you put up a good article you can always get a good market and ready sale, but we want no scraps. There are too many tail pieces put in, especially in the flat tins, but you must put in no flat pieces." There is, of course, a good deal of waste in canneries with small pieces and scraps that are unfit to pack, and if packed, they would have to be sold at a loss. Now, I think it is unfair to expect canners to put up these scraps, because they would have to be sold at a loss if we could get any market at all. Then we have to enter into keen competition with the Alaska packers. Their salmon has much the same appearance as ours, but we have the advantage of them that our salmon is much more carefully packed, and that we have to rely upon. Now, it may be the opinion of a few in this country—I have heard one or two speak in that way—that, as I believe, it is practised in the United States, that after British capital has been induced to come in the country and is invested, it becomes legitimate prey for any one, and he is considered a clever man who can deprive the investor of a portion of his profit. I think good faith should be kept with people who send their money here for investment, because in a new country like this it is of great importance we should get all outside capital we can. I notice there has been some evidence given in relation to licenses given to freezers. The early fishing in spring does not, in my opinion, effect the canners much—the spring salmon, as I said, is very little good to pack for the English market. It seems to me, if licenses were issued to freezers and shippers of fresh salmon to catch spring salmon only, that a good deal of that difficulty would be overcome. The contention has been, and I think rightly, too, that freezers, or people who pretend to be freezers, simply get a number of licenses and make money out of them, by selling fish to canners. Now, if they were only entitled to fish with large meshed nets, that would be done away with.

By Mr. Higgins :

Q. Because the canners would not buy the white?—A. But to a very small extent. They don't can salmon—the spring salmon. I think the canning of spring salmon, in

my opinion, is but a very small business, indeed; and, as I have said, in the English markets they do not want it. It is more expensive to pack spring salmon, and we cannot get

Q. What is your opinion of spring salmon yourself?—A. I think it is a much better fish in every way, but we have to go by the market.

Q. Could not we educate them up to it?—A. Well, I have tried it—we have shipped spring salmon to England last year but we will meet with loss—it will have to be sold at a loss and we have to be governed by the trade—now a good deal has been said about the disposal of the offal. I may say that this company with which I am connected commenced business last year—it was in the beginning of May, and at that time it was almost too late for us to think of putting up an oil refinery or place for disposing of this offal by manufacturing it into guano—it was almost too late, but I did all I could to induce a firm on the Columbia River to come over and take all the offal from our factories. I gave this firm all the opportunities I could, and offered a bonus if they would do it—there was much correspondence about it, and I thought at first we would be successful, but it fell through—the firm could not see there would be any money in it, and I think myself it would result in loss to any one who would go into it. It may be better in the future, when the soil becomes worked out, but of that I cannot say. Now, as to the disposal of the offal, I believe firmly if offal is shot out into deep water into a strong current, it cannot be either injurious to fish life or to the health of the people residing on shore. It is true, there are numerous cases of typhoid fever in the Delta, but I think the sickness there is attributable to other causes than fish offal—the unsanitary condition of the houses and other causes I think, will explain that—bad drainage, &c.—as a matter of fact one hears of almost no sickness at the canneries where the offal is disposed of, but chiefly at hotels where there has been crowds of workmen and others living together and where they are not over careful about the sanitary arrangements. As to the hatchery, the river is such a large river that I do not think the hatchery has had much appreciable effect as yet though there is no doubt last year was exceptionally good for an "off" year, but we know that the fish hatcheries have been very beneficial in smaller rivers where the results were more noticeable, and I think the hatchery should be encouraged in every way possible, either by increasing its capacity or by building other new hatcheries on the smaller tributaries. I think this is a matter that would be supported by every canner—it cannot by any chance do any harm and the chances are 100 to 1 it will do a great deal of good. As to the northern canneries on the Skeena River, I think it is important there should be no change made in the regulations there, especially this year, for as you are aware all arrangements for materials, &c., have been made long ago, on the basis that they would have a certain number of licenses. I may say we work there the British American cannery. We were granted 34 licenses and have been granted them for a number of years previously and also worked a number of outside boats and then had not as many boats as we wanted. I think on the Fraser River each cannery should have a certain fixed number of boats, not less than 25. When I say 25 I do not mean to say we cannot do with more than that, because in a poor year we can use 50 boats all the year through. My company do not intend this year to work all its canneries because we cannot get enough boats to supply all the canneries with fish—it is proposed to run half the canneries on the Fraser River and use the fish from those boats of canneries not running to put in the other canneries and double up, thus reducing expenses, but I think it most essential that there should be a fixed number of licenses to the canners, so they may reply on ordering supplies, &c., and so there should be no danger of being frozen out by any combination of fishermen, as canners have money invested and not the fishermen, and if it was not for the canners the fishermen would have a very small market indeed—the local market—and which is a mere nothing to them. That is all I have to say.

By Mr. Armstrong:

Q. Mr. Irving, suppose all British subjects who apply for licenses should get them?—A. Canners and everybody else?

Q. All persons, British subjects who apply. Would canners require as many licenses as if the number of licenses were limited, except a certain number granted to each

cannery? What would you think of that?—A. Well, I am afraid it would lead to some over-crowding on the river, but it is a matter that would right itself. I do not think any more than the present number of boats could fish on the river, and if more were allowed, I think there would be trouble on the river, because each fisherman would have to wait his turn to fish a drift.

Q. Do you think much of the Alaska pack reaches England?—A. Oh, yes; a large quantity and the Alaska pack governs the English market more than anything else. A large amount of the Columbia River pack is consumed in the United States on account of the duty on tin plates, and it is really the Alaska pack that governs the English market. It has more effect than the Fraser River pack a good deal.

By Mr. Higgins:

Q. You speak of the large amount of capital invested in the fisheries. Can you tell the total amount invested on the Fraser River approximately?—A. Of course it depends a good deal upon the pack.

Q. Oh, well, I mean the amount invested in appliances, etc., stock in hand, etc., take an ordinary year. I mean the plant, not the out-put?—A. Well, do you count the good-will, because that is a very large item. I suppose Mr. Ewen would consider his good-will a great deal more than the value of his cannery.

Q. Well, I don't think we can count the good-will. I mean the machinery, the buildings, the ground, etc., all necessary to carry on the business; the amount of money put into it, you know?—A. Well, I should think the value of the canneries, including the good-will——

By Mr. Armstrong:

Q. Oh, do not include the good-will; that does not amount to anything. Give us the canneries; good-will has nothing to do with trade.—A. Nothing to do with trade? Why if we pay so much for a piece of property, a good deal of that is for the good-will. Why the man may have gained a reputation for the brand and that is worth a good deal.

Mr. Armstrong.—But another man's brand may not be worth anything.

By Mr. Higgins:

Q. To a certain extent I think Mr. Armstrong is right. Mr. Irving,—I intend to divide my question in three parts: First, the amount of capital invested in the canneries, the land, the buildings, nets, boats, etc.?—A. Well, if I pay $40,000 for a cannery and that cannery is burned down flat, I could probably build it again for $25,000, but I would consider that there was $40,000 invested.

Mr. Wilmot.—No; I do not think so, because to a certain extent that is speculative.—A. Well, you asked how much money was put into the business; well, we pay so much, but if the places were burned down we could replace them for very considerably less than what we paid for them.

Mr. Armstrong.—Well, but we cannot take into calculation every good-will. I know a case in New Westminster where so much was put in for good-will, but the good-will was not worth a cent.

Mr. Wilmot.—Take the value of real property — what would good-will be worth? A man may own a horse and want $100 for him, and another come along and say, "That horse will be worth $500 to me," but that would not be the market value of the horse.—A. Oh, I see.

Mr. Higgins.—But you are off the track. I want to get at how much money is invested in the canneries. Say Mr. Irving has paid $40,000 for a cannery; now, that is $40,000 capital, no matter what it cost the first man who sold it.

Mr. Wilmot.—Yes; but the capital that is invested in that way may be brought about in this way—now a man owns a cannery say, and strangers come here and they make him believe the cannery is worth so much—perhaps four times its real value.

By Mr. Higgins:

Q. But I do not want to know how much it is worth; I want to know how much capital is invested in the conduct of the fisheries on the Fraser River.—A. The whole of the canneries on the Fraser River?

Q. Yes.—A. I should say one million dollars for value of the canneries is a fair sum—independent of anything else.

Q. That includes everything in the way of appliances?—A. Yes; boats and nets, land and everything else.

Q. Would that be a low or a high estimate?—A. I should think it a fair estimate.

Q. How many canneries are there?—A. Twenty-three, I think now.

Q. Are all running?—A. They were all running last year, yes—no, I am wrong; twenty-two there were.

Q. Now, sir, the amount of capital required to keep those canneries in operation—how much to keep them going?—A. I see. Well, we will take a big year, say, for of course the capital involved in a poor year like what we expect to come now is very different to what we expect in a good year. I should say a million and a half of dollars is the amount required when the pack would be about 440,000 cases.

Q. Then there is about $2,500,000 invested on the Fraser River?—A. I should think about that.

By Mr. Armstrong:

Q. Now, Mr. Irving, if the value of canneries is a million of dollars, now what will it cost to put up one of those canneries?—A. Well, it will depend upon the taste of the builder a good deal.

Q. Well, as they now stand?—A. Well, for $25,000 I believe you can put up a a good cannery—that is, without boats or nets or any material.

Q. Well, but do you think any that are up now cost $25,000, except Mr. Ewen's?—A. Well, I should think they would, judging by the amount of insurance that is carried on those canneries. That would be a fair criterion to go by.

Q. Well, is insurance carried on the building or plant?—A. On both building and plant. I would say for the average cannery on the Fraser River, of course, $25,000 would be about the amount.

Q. But, as they were put up first?—A. Oh, well, perhaps $15,000 to $20,000—that though is a very very low estimate—that is the bare cannery and nothing else.

Q. Then what would the machinery cost?—A. Oh, I include the plant.

Q. Boats and all?—A. No, not boats or nets.

Q. And what would it cost to supply those boats and nets?—A. Well, about $5,000 for nets.

Q. And I suppose that has to be renewed every year?—A. Every year.

Q. And the boats about $40 apiece?—A. Some would cost more than that—some cost nearer $50 and $60—of course $40 is the bare boat alone and many bare boats cost $50 and $60.

Q. I suppose $50 would be the average?—A. More.

Q. Well, would $60 cover them?—A. Yes.

Q. I think about $20,000 would come near the average of all the canneries would it not?—A. Well, may be you are right, but that is not a high sum at all.

By Mr. Wilmot:

Q. And do you think $20,000 a fair value for the building?—A. Yes.

Q. Then how do you make out the value of the canneries to be a million?—A. Well, some of that land there is very valuable, and my answer was not only for the bare building but the business.

Q. But your reply was it would cost one million—now, this divided between the canneries makes each $45,000 and you say $20,000 for each—now that is double that.—A. Well, the question was put "how much money is invested in the business."

Q. Well, we will let that drop—do you think the $45,000 is too much?—A. Not some—I know there are men would not sell their canneries for that.

Q. Well, how could you state that figure then?—A. Well, the $20,000 are the mere value of putting up the building—the bare building—nothing else.

Q. Could not one be put up for $5,000 or $10,000?—A. Well, I suppose if you like you can can fish in a bare shed.

Q. Is it not so that some of the canneries are being about to be pulled down?

Mr. Higgins.—Well, Mr. Chairman, pardon me—I think you are travelling the very way I spoke of the other day—I asked the question what was the amount capital invested, not the plant—now Mr. Irving.

Mr. Wilmot.—But you asked about the plant?

Mr. Higgins.—But, Mr. Wilmot, excuse me—I asked the gentleman what was the money invested in the business—I will appeal to every reporter at this table. Mr. Irving were not you asked this question "what was the amount of money invested in the business?"

By Mr. Wilmot:

Q. Mr. Irving, did you not mean when you said the value of the canneries was a million of dollars not including the good-will?—A. No, I included the good-will, because that good-will has been paid for in hard cash in most instances.

Q. But did not Mr. Armstrong and myself say "not including the good-will?"—A. I included the good-will—why many of the canneries would not take—(inaudible).

By Mr. Armstrong:

Q. I don't exactly catch your answer, namely that some of the canneries would not take—what do you say?—A. I said that many of the canneries would not take that price—I meant that at the average you said—$45,000. I put it in round figures at a million dollars for twenty-two canneries.

Q. Then are we to understand that the difference between the actual cost of the canneries and the million dollars is good-will, because the actual cost is not half a million?—A. Yes; good-will, value of brand, etc. It is an established business, and when a man has established himself in business and been working at it for a number of years, it stands to reason he cannot jump over and run away at a moment's notice, and he will not sell it for a song.

By Mr. Wilmot:

Q. Then you say $20,000 is the value and $25,000 the good-will?—A. Well, but excuse me, I have put nothing for the land. The sites of many of these canneries are very valuable.

Q. But, do you not when you build a cannery buy the site, too?—A. Certainly; but much of that land along the river front is very valuable.

Mr. Wilmot.—Very well, we will let that drop; it seems we cannot get any decided answers; in fact I would rather not ask any more questions. The witness is in your hands, Mr. Higgins.

Mr. Higgins.—Well, I am sure he has answered very satisfactorily to me. I have nothing further, however, to put.

Mr. Armstrong.—Yes; we are much obliged to you, sir. That will do.

WILLIAM McNEILL, a native of British Columbia, born and reared in Victoria, and a Fishery Officer for the Victoria District, was duly sworn.

By Mr. Wilmot:

Q. Have you anything to represent to the Commission?—A. Well, in respect to nuisances I have, both in Victoria Harbour and Esquimalt Harbour. There are eight fishermen engaged in fishing herrings and other fish all the year round.

Q. In Victoria or Esquimalt, or both?—A. Well, we closed Victoria Harbour and ordered them to keep out, but in Esquimalt we have not done anything yet, but I believe they are just as great a nuisance there as in Victoria. They are engaged in fishing for

herrings and they haul their nets ashore and allow the young fish to lay there and rot, and it becomes a nuisance to people all along the water front, and it also diminishes the food fish. They have been in the habit of seining their nets stationary right across the George, right here in Victoria, fastening them on the banks at both sides.

Q. Then it becomes a stationary net?—A. Yes; running from one side to the other and they have caught and killed every trout that comes up there and they are exterminated entirely in the Gorge.

Q. Are there other fish besides trout?—A. No; principally trout, and in nets in the lower part the herring is caught and thrown up on the beach and allowed to rot.

Q. Do you know the description of net used?—A. They call them herring nets, but they have very small meshes.

Q. Were you present when Martin, the last fisherman, was giving evidence? He says they fish with 1½-inch mesh, and those don't catch anything worth mentioning?—A. Yes; and some are still smaller. I think if they were licensed and some restriction put upon them, we would be able to manage them a little better.

Q. Have they licenses to fish these nets?—A. They have no licenses.

Q. Should you not prevent it then as an officer?—A. There is no law to prevent it; I have asked for instructions, but have not got them. I am of course a new officer; I only went into the office in January, 1892.

Q. Did you know of this beforehand?—A. Oh, yes; I knew of it beforehand.

Q. Mr. Martin says he could not get a license; do you know Mr. Martin?—A. Oh, yes; I know Martin—well, Thomas Martin?

Mr. Armstrong.—Leonard Martin he gave in.—A. Well, he gives me his name as Thomas.

By Mr. Wilmot;

Q. He may be Thomas Leonard; and you think it injurious here allowing these small nets?—A. Well, in summer time the Gorge is a great pleasure resort for anglers with hook and line, and it is now destroyed by these fishermen.

Q. And the fish brought in would comprise what?—A. Trout and rock cod; there used to be whiting caught also; but they have destroyed the grounds by this fishing. I have not seen if any made their appearance again, but I am afraid they will be destroyed. That was the place for real whiting too.

Mr. Higgins.—I know it well; I have often visited there.

Q. What do they do with these fish left on the beach?—A. Well, they leave them there to rot. I could bring in two or three good witnesses to substantiate what I state.

Q. I think you should do so, sir, and then there would be no onus upon you as an officer in giving information. I think it would be well to bring the witnesses. Do you know young salmon when you see them?—A. Yes.

Q. Is the name trout and salmon confounded in referring to the young?—A. Well, I believe it is.

Q. Therefore some of these fish that you say are trout taken in these nets may be young salmon?—A. They may be, some of them; but we have the trout for years in the Gorge, as everybody knows, when now there is none.

Q. Brought about by the action of these nets?—A. Yes.

Q. Do you think it would be advantageous to the inhabitants of these places that a regulation should be adopted to prevent this improper and improvident fishing?—A. Well, as far as advantages I do not know, but some regulation should be adopted; it would be more convenient. I have been asked to make these representations by a good many people of Victoria.

Mr. Wilmot.—These representations have been made to the department before, sir, and steps have been taken to a certain extent in not allowing seining to be done at all, and they should be caught in some other way.

By Mr. Higgins:

Q. Oh, yes, these small nets are simply murderous: they catch all the small fish. Do you know a young salmon?—A. Well, from the general appearance I can tell young salmon from salmon trout.

Q. What are the characteristics of salmon trout—speckled around the tail?—A. Well, some of them are, more rays, etc., and though I was discussing with people last night, and would not like to say anything about it, but still I can tell them. I made a seizure not long ago, and they were said to be salmon trout, but I consider them young salmon.

By Mr. Wilmot:

Q. Then the salmon trout are not easily discerned, and some young salmon may be here and sold as salmon trout?—A. Yes. I may say I was passing here a few days ago and saw many of them called salmon trout, but they were young salmon.

By Mr. Higgius:

Q. Will salmon trout take the fly here?—A. I believe they do.

Q. Will salmon?—A. I don't know; I never heard of it.

Q. Will these young salmon, called salmon trout, take the fly?—A. Well, I don't know.

By Mr. Wilmot:

Q. For of course the young salmon will often take the fly; in their young stages they take the bait and fly most greedily, but when they become adult they do not. They are getting their growth then, you know, and are hungry. How about the close season here, Mr. McNeill, the Sunday close season?—A. Yes, I am aware of that; but it is not observed here. The fishermen here that fish are under no law whatever.

Q. Who was the previous officer before you?—A. We have never before had a fishery officer here before.

Q. Who would then be the nearest officer?—A. John McNabb, at New Westminster.

Q. Where is Mr. Lomas?—A. Oh, yes; he would be the nearest; he is at Cowichan.

Q. And none of the officers have prosecuted for breaking the Sabbath here?—A. None.

Q. And have any other fishery officers made complaints here of the same nature as you have done?—A. Never; they have gone on seining there up to 1st January of this year; they have had their own way here; they could have taken canvas and set it together and scraped the harbour; nobody could have said anything to them.

Q. And do the inhabitants now complain of this scarcity?—A. Yes; they have.

Q. Would not regulations, if passed to prevent it, be found fault with?—A. No; not from resident people here, but from fishermen they might.

Q. Well, in the event of licenses being given to fishermen here, should it be open to all or resident fishermen?—A. Open to all.

Q. Greeks, Italians, etc.?—A. Well, it is mainly Greeks and Italians who do the fishing here. I have tried to find out if there are any others, but there are only eight fishermen, and they are principally Italians and Greeks, and so if licenses are given, I do not think there would be any trouble.

Q. Yes—that is, it seems that you are to be burdened by these people. Even in their own country they take in everything; use small mesh and give no thought to the fish until utterly destroyed, and so, I think, they should not be allowed to do as they like. Very well, sir, if you have nothing further, that will do.

The Chairman declared the Commission adjourned at 12.30 p.m., to meet again at the same place at 2 p.m.

Before adjourning the Commissioners agreed not to sit later in the afternoon session than 5 p.m.

VICTORIA, B.C., 5th March, 1892.

Afternoon Session.

The Commission was convened at 2 p.m.

Present: Mr. S. Wilmot, in the Chair; Commissioners Armstrong and Higgins, and Mr. Secretary Winter.

MR. ASHDOWNE GREEN, who had been recalled, appeared, and was asked by the Chairman if he had been sworn when giving his evidence yesterday.

Mr. GREEN.—Oh, yes; I was sworn.

By Mr. Wilmot:

Q. And it was said that you were not sworn in the usual way, and that it was intentional?—A. Nothing of the sort, sir; I was duly sworn.

Q. And do you find that the Chairman had put words in your mouth to say?—A. No; but I will say that it struck me that sometimes you gave me a history of the Canadian salmon, and you took up those points that resembled the British Columbia salmon, and, of course, I could say nothing, except that it was so.

Q. But was it not correct?—A. Oh, yes; but you did not take up those we think do not agree.

Q. Well, I will take them up now.

By Mr. Higgins:

Q. I understand you know something about the Skeena River, Mr. Green?—A. Yes; I was up there last year. I went from the mouth to one of its principal sources.

Q. Does it fork at Hazelton?—A. I was also up the larger fork.

Q. Were salmon running when you were up river?—A. Yes; there were five species running. I did not follow them up. I left one kind running up at the Forks and got into another kind when I arrived at the lakes. I was at the Forks when the humpbacks was running, but they had not arrived at Babine when I got there, and I was curious to know if they were running so high from the sea.

By Mr. Wilmot:

Q. Well, may I interrupt the witness—it may be said again that he was not sworn. Will you please take the book?—A. Yes, sir.

Mr. Green was thereupon duly sworn.

By Mr. Higgins:

Q. What is the distance of Babine Lake from the coast?—A. I can hardly tell you; about 160 to 180 miles. It is a very large lake, and it is full of salmon, according to the Indians; well, the salmon go there; that is all that go by that fork. I did not see the humpback, though the Indians tell me they go there.

Q. Do they go beyond that?—A. No; that is the limit of the lake; it is a source, you may say.

Q Are there any small tributaries?—A. Oh, numbers. I did not visit any tributaries of the Babine. I was principally employed at the mouth of Babine, and I was thinking there must be immense quantities of salmon taken there; the Indians have traps in all directions.

Q. You say you saw five species; can you enumerate them?—A. Certainly. There is spring salmon, the sockeye, the cohoe, the humpback; the cohoe and humpback I am not certain about, but I think the cohoe goes in. The dog-salmon and steel-head I also observed, particularly because about here it is an early fish, and enters in January and December, but there it does not enter until August generally.

Q. How many canneries are on the Skeena?—A. I did not count them; I think six or eight.

Mr. ARMSTRONG.—I think in the evidence it is given at eight.

By Mr. Higgins:

Q. Is there any complaint of scarcity of salmon there?—A. No evidence at all of it.

Q. Were you there at the spawning season?—A. Yes.

By Mr. Wilmot:

Q. When was that?—A. The end of September.

By Mr. Higgins:

Q. Was there any evidence of fish having died?—A. Yes; a good number.

Q. And were they still running when you left?—A. Yes, they were still running. I did not see any spring salmon; their habits are so different; they are not likely to die; the ones I saw were particularly sockeyes and cohoes.

Q. With regard to the difference in salmon in the east and these, what do you think?—A. The only one bearing any resemblance is the spring salmon: that is the only one.

Q. And yet the salmon in England it resembles is a red salmon?—A. The only difference, as I said yesterday, is that I do not think the smolts are the same, and nothing is ever found in other salmon.

Q. Have you ever tried the fly here?—A. Yes; but always for the cohoes; not for spring salmon. I never caught an adult salmon with the fly; but then I have never fished when it is in the river. I have caught adult salmon with phantom minnow; but I never tried the fly but a few times, and then caught grilse. The cohoe I have taken several times, and always at the head of tidal waters. I have been told they have been taken above tidal water. The cohoes are a perfect nuisance; they take your fly; I once took five. The fish I took were clean and bright, though not well developed. The adult ones would not take the fly.

By Mr. Wilmot:

Q. I shall not be wrong now, sir, if I say the character of salmon you are just describing are very similar to other salmon?—A. The spring salmon are; not the other salmon.

Q. You say you have caught grilse?—A. Yes; from five to seven pounds, I have caught them.

Q. Have you ever seen any but male salmon that were grilse?—A. These were male and female I caught.

Q. Would you catch any female grilse of four pounds weight?—A. I cannot remember. I think I caught one of seven pounds weight.

Q. Would not that be same as salmon on Atlantic coast?—A. Yes; very like.

Q. And is not the male one year in advance of the female in pro-creative work?—A. Yes; I know the male salmon is. I never saw any grilse of dog-salmon or cohoes. The spring salmon run according to their age, up to seventy or eighty pounds.

Q. The smolts only descend the river; they do not ascend?—A. No; I never knew of one to do so.

Q. And at what period do grilse first come in the river after coming down as smolts?—A. That I cannot say. I have taken grilse in April; that is the earliest.

Q. Do you know the accepted idea that prevails in Great Britain that grilse go up very soon after being a smolt?—A. Yes; I know that in some cases it is very short. Some smolts may go down in the fall and up in the spring as grilse.

Q. Then are not the character of grilse and spring salmon in Cowichan River, very like the English salmon?—A. Yes; they are very much alike.

Q. They come in the months of April, May, and June in eastern provinces, and then spawn and go back again?—A. Yes. Here they come in December and January.

Q. Yes; that is on account of their being so much winter?—A. Yes; probably.

Q. And you think spring salmon will take the fly at the proper time—when would that be?—A. In January, February, and March, I should say.

Q. When they come in first, they will take the fly readily?—A. Oh, no; not in Skeena. They will in Cowichan. The water in the Skeena is too muddy. There are some half dozen rivers in British Columbia where you can catch them with the fly.

Q. Then another river like the Cowichan, running into the sea, would give angling sport, if practiced?—A. Yes. The Nanimo River is another. It is a practice there to go fishing for cohoes. It has been for nine or ten years—I mean with the fly.

Q. I think, sir, as far as my knowledge goes, your statements are identical with what you made yesterday?—A. Yes; I don't see any difference.

Q. Illustrating more strongly, perhaps, that the spring salmon is quite like the other salmon in the eastern provinces?—A. Yes; except the cohoe salmon. It resembles grilse very much, but afterwards get more of a larger species.

Q. Do you think cohoe a separate species of the salmon family with spring salmon?—A. No; many things are alike, but his flesh is drier and his bones and vertebrae are different—his fins, etc.

Q. Would it not be because he is slighter and smaller?—A. They vary much in different rivers.

Q. Then spring salmon is red when it comes in, but afterwards gets white in flesh, and enters in April, May, and June?—A. Earlier in the Cowichan River; in January.

Q. And the cohoe?—A. In June, but the cohoe is much whiter than the others.

Q. Yes, but they change like the spring salmon?—A. Yes, they do.

Q. The reason of asking these questions, Mr. Green, is simply to find out information—you know in England much wealth is made out of the rivers leased for angling and in eastern Canada the same way, but here—have you any rivers where this can be done, because if so, you have another source of wealth which it would be advantageous to foster?—A. Yes, but I hope you will not tax me for having found it out.

GEORGE VIENNA, a native of Greece, residing in British Columbia since 1858, a fisherman for 28 years, was duly sworn.

By Mr. Higgins:

Q. Where do you fish when you are at home—up the arm?—A. No, outside—not in the arm at all.

Q. What do you fish with—small seines?—A. Nets of one and one-half inch mesh.

Q. What do you catch?—A. Herrings, flounders, smelt, big salmon.

Q. Do you catch a great many?—A. Sometimes.

Q. How long ago is it since you gave up going out to fish?—A. Twenty-three years and I have been keeping store since.

Q. Do you find fish getting scarce?—A. Sometimes, but if they get scarce we change places.

Q. Are there plenty of fish now?—A. Well, if they are caught every day the fish get scarce.

Q. You think there is too much fishing?—A. Well, there are too many people fishing.

Q. Do you get any fish from Puget Sound?—A. Oh, sometimes—the oulachon principally.

Q. Small flounders?—A. No, only oulachons.

Q. Do you buy any fish that are caught up the arm or in Esquimalt Harbour?—A. No, we get them from Saanich and Cowichan sometimes.

Q. I wish you would show him the sizes of the mesh, Mr. Chairman. Mr. Wilmot proceeded to show the witness the diagram on file showing the different relative sizes of meshes.

By Mr. Wilmot:

Q. Well, which of those sizes do you use?—A. I think we use all kinds of mesh here.

By Mr Higgins:

Q. Do you ever use smaller than a half inch?—A. Yes, for shrimps.

Q. What size do you use in your nets mostly?—A. We use herring nets mostly—we use all kinds except the half-inch—sometimes we use it, but only for shrimps.

Q. What do you get in one and a quarter?—A. Oh, small kinds.

Q. Herring and smelt?—A. No, not at all.

Q. What kind of mesh have you in bag of the seine?—A. Oh, about one and a quarter in back side.

Q. Point out which it will be?—A. Well, sir; I cannot tell from that (the diagram)—if you show me the nets I will tell you.

Q. Did you ever get fish from the arm years ago?—A. Yes, I used to fish myself up the arm—up as far as the second bridge.

Q. Have you ever been in Esquimalt Harbour?—A. Oh, yes; we used to draw nets through the harbour—but now we cannot fish—there are too many lines.

By Mr. Wilmot:

Q. How do you know the fishing is reduced, from the fish you used to catch to what you catch now?—A. Well, we used to have 25 boats, but now we have only a few.

By Mr. Armstrong:

Q. Do fishermen catch any young salmon in the nets now?—A. Yes; of course if they find them they catch them.

Mr. BEAUMONT BOGGS, a native of Nova Scotia, 7 years in British Columbia, a broker, and resident of Victoria, was duly sworn.

By Mr. Wilmot:

Q. What have you to submit to us, sir?—A. I reside on the shore of Victoria Arm. I take pleasure in trout fishing and since my residence in Victoria have fished in Victoria Arm. Some three years ago, in April, 1887, I complained to Capt. Lewis, the Dominion officer, of the fact that nets were spread across the mouth of the Arm above Point Evert's Bridge; these nets prevented the trout, in my opinion, from reaching the upper portion of the Arm which is the fishing ground. Upon one occasion on my coming down in the morning in a canoe, I saw some Italian fishermen drawing their nets, and I examined the fish that were in their nets, and among the number were quite a number of trout, I should say about half a pound, also flat fish, smelt, herrings, etc. The practice of netting still goes on during the night on Victoria Arm. Only two months ago I dispersed two pair of fishermen below my house engaged in spreading their nets. I was informed there was no officer here who could look after them, as the fish inspector was at Westminster.

Q. How long ago was that?—A. Three or four months ago, I think.

Q. Before you had any local officer here?—A. Yes. I believe it would add a great attraction to our Arm if trout were put in there from the hatcheries and protected for a certain time and netting prohibited altogether.

Q. Is this Arm saline water?—A. No; not altogether. Two small streams run in.

Q. The sources of these streams are pure?—A. Yes.

Q. Gravelly bottom?—A. Yes; in some portions.

Q. Are you acquainted with streams in Nova Scotia?—A. Yes.

Q. Do these resemble them?—A. No; I think not. The water is, I think, salty. I think the bottom in our eastern rivers has more vegetable matter; that is not muddy, but more leaves, etc.

Q. Small acquatic plants growing in them?—A. Well, here there are some of them, too.

Q. Would it be better if this stream was deprived of acquatic plants?—A. Well, I don't know.

Q. Do you think these streams are adapted for the breeding of trout and that netting is diminishing them?—A. Yes.

Q. Are you acquainted with the different appearances of young salmon and the small trout?—A. No; I cannot say I am. I could not say one was young salmon or trout.

Q. Then some may have been young salmon instead of trout?—A. They may be.

Q. And you think this netting should be prohibited?—A. Yes. I think it is not exactly the number of fish that are taken as the number of fish that are killed. I have seen myself near my house great numbers of young fish floating belly up dead.

Q. Do you know what caused their death?—A. No; it was during the days when these fishermen were netting.

Q. It has been said that these fishermen draw their nets ashore and leave them there to die?—A. Well, I believe that is done.

Q. If you throw fish on shore is it likely to come alive?—A. No.

Q. And the number of fish thrown ashore become refuse and offal?—A. Yes.

Q. As an angler have you fished outside of this Arm?—A. I have fished on Sim's River running into Alberni Canal, and on Cowichan River.

Q. What fish did you catch on Cowichan River?—A. I cannot say I caught very much; my luck was not very good.

Q. You got "water-hauls?"—A. I am afraid they were "water-hauls." I have seen good salmon caught there with the rod and fly.

Q. In what seasen would that be?—A. I think in April or May. It is some years ago.

Q. Then you are aware that salmon are caught in British Columbia with the fly?—A. Yes.

Q. (Jocularly) And then that Englishman who said it was a bad country because they could not be caught with a fly made a mistake?—A. Yes; the Sims (Esmos or similar name) running into Alberni Canal is really a fine angling river.

Q. And then from an angling stand-point do you think trout should be protected in these rivers; some say they should be killed off, because they are destructive to salmon fry?—A. Well, that is from a commercial stand-point. I think a large number of persons, wealthy persons, visit this province for the object of sport, and if it was known all the fish and game of this province were exterminated they would seek some other point.

Q. And if protected and encouraged it would add to the wealth and prosperity of the country?—A. I think so.

Q. Are you aware that there are fishery laws for the preservation of trout in other countries?—A. Yes; there is here, too, but there has been no one to see it was carried out.

Mr. Wilmot.—Have the other commissioners anything further to ask?

Mr. Armstrong.—No; nothing further.

Mr. Wilmot.—Very well; thank you, sir.

ALEXANDER BEGG, a native of Scotland, four years in British Columbia, and forty or fifty years in other parts of Canada, at present a resident of Victoria, and engaged in looking after colonization projects, in particular that of the Scotch Crofters.

By Mr. Wilmot:

Q. Are you, Mr. Begg, identified with the Crofter immigration?—A. I believe I am.

Q. Well, have you anything to state to this Commission on the subjects under consideration?—A. I have not had much experience myself in connection with salmon fishing, because during the salmon fishing time I have been across in the old country looking after the project engaged in. I only know there are a great many kinds of salmon put up, and know there must be a great deal of offal come from those salmon, and I have examined the offal that came from the fish, as it was understood that a change was to be made in that regard. I also looked into the manufacture of dog-fish oil on the west coast, where that has been carried on for many years. I visited the oil refinery or factory on Alberni Canal, and saw how the oil was manufactured there from dog-fish, and also visited the Skiddegate oil factory on Queen Charlotte Island, and also

on the Queen Charlotte Islands visited the seal oil factory on Comishaw Inlet. These are the principal oil factories we have, but they are principally for dog-fish oil, and the refuse matter or solid matter belonging to that oil is thrown away entirely ; it is not utilized. As soon as the oil is extracted by steam it is floated up in cold water ; the oil is very effectively extracted in that way, but leaves the residue in a sort of gruel, and so far it has been found impossible to solidify that product, and so it is thrown away ; they open a valve into the sea and let it away, so that is quite lost as far as we are concerned. While I was examining that matter, I wanted to find out the different constituent matters in fish that might be utilized for making oil and fish guano, if that could be done, so I procured samples of the different kinds of fish. One was dog-fish, and I put it into a can or vessel ; I also got part of a cod-fish, such as would remain after cleaning cod-fish for market ; I put that into another can marked ; I also got some salmon, and put heads and tails and entrails in the parcel ; I also got some herring, and had four samples, and brought them to Ottawa to have them analyzed, to see if we could work them to advantage. The dog-fish, of course, we knew about here. When I brought them to Ottawa I found, rather to my disappointment, the great Experimental Farm there would not look at them ; they didn't think they had time to look at them, and they asked me to take them away. Well, as I did not want to lose my time altogether, I thought I would try the small provincial affair, and I went to the Agricultural Department at Toronto, and called upon the Minister of Agriculture, and he said very kindly that he would enquire from his Professor of Chemistry, and he sent them on, so shortly afterwards, I got a report from Professor James, the chemist. It seems to be very fully gone into, and gives everything very fully. (Hands in document.)

Q. Is this the same as appeared in the *Colonist* the other day ? (See pp. 112 and 113.)—A. Yes ; the same thing, only it is more fully shown in that paper. I thought it a very good report, but have not been able to do anything further since. Still, it is very evident from that report that Professor James is a very able man, and gave it a good deal of attention, and I have no doubt his views are pretty nearly correct ; at the same time, I do not think we have the machinery to separate the solid matter from the fluid.

Q. Have you formed any opinion of your own aside from this report ?—A. I believe it can be done, but the machinery to do this will take very expensive machinery, and it may be that another way of extracting the oil from what is done here may be used. At present we float the oil out by the introduction of water, but there may be some other way that will be better and more easily worked, but it is found at present that the oil from dog-fish, when cool, gets into a kind of jelly, and so far, it has not been worked profitably, and I have no doubt those who work it on the Fraser River have found it to be correct.

Q. Have you ever made estimates of what would be required to put up an establishment for this purpose ?—A. No ; I have not got an estimate, but I think it would be more expensive than estimated—though they do manufacture this oil from fish offal in Norway, where they have been for many years in that business, and I suppose we could get from them some information as to how it is managed.

Q. Do you know if it has been sufficiently satisfactory to be remunerative ?—A. Oh, yes ; they have been carrying it on for years, and unless remunerative, they would not do it. It was also tried at Aberdeen, and they made all sorts of essences, etc., etc., but they had to give it up, because they could not get the supplies. Now, the same thing would apply to the Fraser River, because, except during the fishing time, there would be no supply to carry on the work—the fishing only commences in June and July, and as soon as the fishing is over, of course, the offal is done. Now, it is different on the west coast, where we have dog-fish, and other fish, etc., and we would expect in this scheme of colonization that the fishing would be going on all the year, and it would be quite different to the Fraser River.

Q. What about the fishing that is carried on after the sockeye run ? Could not these fish be utilized ?—A. Oh, yes ; that was my intention in connection with this colonization scheme—all kinds would be utilized. If oil fish, they would be used for oil ; and if food fishes, they would be used for that purpose. There would be no waste, whereas in salmon fishing, it is only the choicest parts that are put up in cans, and, of course, that makes it more difficult.

Q. Have you ever seen reports as to the Aberdeen establishment?—A. I have seen reports, but I cannot say as to them. The great difficulty of that Aberdeen establishment was that they could not get supplied to keep going; then the machinery was expensive, etc., but it is not so up north. Up in Queen Charlotte Islands oil factories are still going on there, and they use all kinds of fish to make fertilizer, that they cannot use for anything else. I think it can be carried on, and in connection with this colonization scheme, with which I am connected, we have a separate company which will look after the fish altogether—take them off the fishermen's hands, and see to the marketing of them, and they will most likely after that part of it, see about the oil, etc.

Q. What inducements are you holding out to immigrants coming here?—A. They will have plenty of fishing and work to do, and will be paid for their work, and that is all a good industrious man requires. We also have made arrangements for advancing money to bring them out and establish themselves.

Q. Have you spoke of the salmon fisheries?—A. No, we have been careful to avoid any interference with existing interests—the object of this scheme is to establish new industries and we do not wish to interfere at all with the salmon industry.

Q. What special manufactures do you anticipate?—A. Well, one of the special ones was this oil refining, and then anything that comes in the way will be used, if not for food for something else. Then another point will be to preserve table fish by cold storage.

Q. Then you did hold out inducements that this was a large fishing country?—A. I told them there was plenty of fish and that they would have work in catching them—and then the markets would have to be found, and that is the object of this company that has been formed—to find these markets.

By Mr. Armstrong:

Q. Do you know with expensive machinery you speak of that it can be carried on successfully—that is the oil business?—A. I think so—the oil—that pays.

By Mr. Wilmot:

Q. Do you say the oil pays?—A. Certainly it does—it pays the man at Serrat (?) and it pays at Clough on Alberni Canal, only that they cannot get supplies—the trouble is the Indians will not work steady—they go picking (?) and other things, where as our fishermen could stay at the business and have work all the year round.

By Mr. Armstrong:

Q. Do you think the oil made from offal from canneries would pay?—A. I do not know if oil from salmon would pay alone, but I have no doubt that with proper machinery it would pay from salmon offal, but on account of the short season it would not pay on account of not being able to get supplies.

Q. Well, from what they speak of humpback fish—I think you should get plenty of oil from them?—A. Well, I don't know if they are fat enough or if there is any oil in them.

By Mr. Higgins:

Q. Well, while you were away getting this analysis made, did you enquire where you were likely to have a market for this manure?—A. Yes, I did—and I believe there are parties who would be willing to take large quantities if they could get it at prices paid for ordinary manure.

Q. Was that in England?—A. In the United States too, and even in Canada we find the lands are running out a good deal and require manure. I think that was the object Professor James had, because he thought it would be useful for the Dominion. It is a manure of very fine texture and would be easily absorbed by the plant.

Q. With a view to encourage Crofter immigration and provide for people coming here as a result of that scheme you would naturally look into the cost of delivery, etc. of this oil and manure and could you figure out a profit after deducting cost of transport, etc.?—A. It is said the value in Ontario is $34 a ton, and that is a price on the basis of what it will bring.

Q. But what would it cost to get it there?—A. Well, that is the price after all that I fancy.

Q. Is not $30 a ton the most paid for manure like that?—A. Yes, about that.

Q. And would you have to send it across on the Canadian Pacific Railway?—A. Yes, I suppose so.

Q. And the freight would be about $45 a ton—more than it would sell for?—A. Well, I don't know—I think if the canneries thought of going into it, the canneries would no doubt be willing to assist in getting the offal and delivering it in scows at place of manufacture.

Q. What did you find the freight would be on the Canadian Pacific Railway?—A. Oh, well; I did not go that far—I made a certain allowance for freight, and so much for labour, etc.

Q. But I think it would be necessary before counting in these things to find out what it would cost to produce and what it would cost to get to market?—A. Well, that would have to be added to the cost of production.

Mr. Higgins.—But you would only get about $30 a ton in Ontario for it.

Mr. Wilmot.—But is it a fact that it costs $45 a ton to take freight down?

By Mr. Higgins:

Q. Not every thing; steel rails are the lowest; $18 a ton, and then you would have to run a second train of *eau-de-cologne* to take the smell out of the country. (Laughter)—A. Oh, it would be deodorized before it was shipped. I have been at three factories—at Skiddegate, at Clough and Burrard Inlet, and there is not so much stench from them. I don't know what the one is like on the Fraser River.

Q. Do you know there were such factories in California, but they never paid, and that every fertilizer establishment on the Fraser River has always failed?—A. Well, I don't know. I know these establishments at Skiddegate and other places I have mentioned have made money.

By Mr. Armstrong:

Q. How many Crofters do you expect to bring out?—A. Well, we at first thought 1,500 families, but that would not do on account of the cost to bring them here, and we have got the sanction of the Government to reduce the number to 1,000 and that would give £150 to each family. We do not intend to interfere with any residents, Chinamen or others.

By Mr. Higgins:

Q. Have you ever sent communications to the Department of Fisheries at Ottawa in regard to the manufacture of this offal?—A. Yes; I believe I did so.

Q. Did they do any thing?—A. No; they were very careful not to go into it themselves. I think as far as the residue is concerned, when the oil is taken out and properly steamed, it does not seem to be so very offensive; the great trouble about the odour is that fish are allowed to stay too long before being steamed. I think after the steaming process commences it takes away the offensiveness.

Q. The offensiveness is then created in the cannery?—A. I don't know, but if fish are allowed to stay even a short time, it soon commences to foment and putrify; that is the reason I want to get them taken away in the same day.

Q. Do you know of any market for this oil in British Columbia?—A. Well, they sell the dog-fish oil very freely here for many purposes. The salmon oil, I should think, would be a very digestible oil; the Indians eat the salmon oil; the other from dog-fish cannot be eaten. The salmon oil could be used for leather making. It is not so very offensive and can be deodorized. When I was in London, I found there was a place where all the dead horses were collected and they were used up in all manner of ways. The flesh is used for cat-meat and the bones are taken in a retort, and they make oil out of it, and after it is clarified and refined, you could not tell it from olive oil, and I think the salmon oil would be very fine.

Q. Did you ever offer to put any capital into the business, Mr. Begg?—A. Yes; I did so once.

Q. Did you ever apply for a bonus from the Dominion Government?—A. Well, I thought it was necessary for us to have a bonus; it was also proposed that cannerymen should help in working it.

Q. What did the Dominion Government reply to your request?—A. Oh, they did'nt do anything. They are not likely to do much on anything of that kind.

Q. And you never enquired what freight would be on the Canadian Pacific Railway?—A. No, I did not. I do think there would be a fair field in the south for the manure for tobacco raising, etc. I think $10 a ton was the price to be given and with my figures, I think there would be no reason for it not succeeding if the cannerymen would help in the matter.

Q. Have you ever eaten Limburgher or blown butter?—A. I do not know, perhaps I have.

Q. Do you think this fish oil could be used for other purposes?—A. Well, I do not know, perhaps it could; it could be rectified; I remember in that place where the oil from bones of horses was made that it came out as clear as could be.

Q. Did you taste it?—A. No; I did not.

By Mr. Wilmot:

Q. You know coal oil is very offensive in its crude state?—A. Yes.

Q. Do you know that by deodorizing and cleansing it can be made into the finest articles on the market?—A. I do, sir.

Q. And you think, if properly treated, a good article could be made from those fish?—A. Yes, I do; I think the oil can be clarified; and especially the oulachon would make an excellent oil.

By Mr. Higgins:

Q. I do not suppose, Mr. Begg, if you were in the cannery business you would feel that you were treated rightly if the Government or any other power compelled you to convert that offal into oil or something else, at a loss?—A. Well, I don't know; I don't suppose the Government will insist upon them producing oil and guano from them. I understand all they insist upon is that it shall not be thrown into the rivers; I am not aware that they insist upon it being converted into oil or guano.

By Mr. Wilmot:

Q. As you have been asked if you were a canner, now, if you were a farmer, what would you do?—A. I would certainly complain about them.

Mr. Wilmot.—That will off-set the other.

By Mr. Higgins:

Q. Well, I will give you another; if, as is supposed, Mr. Begg, you lived along a slough which was almost stagnant and where all the refuse from kitchens and closets were thrown in, would you drink that water and expect to enjoy good health, even with the addition of a little whiskey?—A. No, I would not, even with a little whiskey in it, but I understand the Fraser River is a large stream and has a rapid current and all stuff like that would be carried off.

Q. No, sir; I am talking of a sluggish slough almost stagnant, and I am asking you a question, if, after drinking that water, would you wonder at people getting typhoid fever?—A. No, I would not.

By Mr. Wilmot:

Q. But if before the canneries were put there and no offal was thrown in?—A. I should think the offal would help it.

Mr. Higgins.—But suppose before these canneries were there, there were no inhabitants to suffer from it and even then the water was stagnant and undrinkable.

Mr. Wilmot.—Oh, well, never mind; with the offal it has got worse; before it was not so bad I suppose; let us get on with business.

Mr. Begg.—I have nothing further to submit to the Commission.

Mr. Higgins.—I wish Mr. Ladner to be called.

Mr. Wilmot.—I would draw the attention of the Commission to the fact that Mr. Ladner has been up two or three times. (To the Commissioners)—What do you say, gentlemen?

Mr. Ward (from audience).—I would say, Mr. Chairman, that you stated last night that if any gentleman had anything further to say you would hear him. I thought of matters after giving mine that I would like to give at further length.

Mr. Armstrong.—Well, if we hear you, Mr. Ward, why we will have to allow every one to come again, and we are not going to stay here day after day to hear the same story repeated over and over.

Mr. Ward.—It is very apparent then, Mr. Chairman, that it is not intended to make this enquiry exhaustive. We certainly expected that the Commission, when here, would be willing to get all information of value. Now, I know myself I have thought of matters since giving my evidence the other day which I would like to state to the Commissioners, but if you don't want to hear it, why all right; but——I think——

Mr. Armstrong.—Mr. Chairman, I am opposed to this. Mr. Ladner has been heard before, and I think we should not go on allowing every one to come up as often as they want to, and go over the same story.

Mr. Ward.—You don't want a full enquiry, it is obvious; you don't want to hear all matters.

Mr. Armstrong.—Well, you were here on the stand. Why could you not put matters in then? We allowed you to put in papers and anything you like.

Mr. Ward.—Yet I do think after a witness has been examined, I think if more evidence occurs to him, and it may be very important, I think it should be taken again. Now what are we to infer? We come here day after day, and we hear other men giving their evidence, and questions which may not have been put to us lead us to a line of thought on certain points, etc.

Mr. Wilmot.—Well, there is no use making a speech about it. I must call you, sir, to order. The rule was established that we would not hear witnesses repeatedly. Mr. Ladner has already been up two or three times. If Mr. Ladner is allowed to come here, Mr. Ward will come again.

Mr. Ward.—I don't want to, sir. I would not come. I can well understand the Chairman would not want to hear me again.

Mr. Wilmot.—Well, perhaps I would not be in the mind to let you do so.

Mr. Higgins.—Pardon me, Mr. Chairman, I have a word to say. That rule was broken this afternoon. I think I should have a word to say. Mr. Green was called this afternoon. I offer Mr. Ladner as an important witness on important matter. If important evidence can be obtained from a witness what does it matter if he is called half a dozen times. I certainly say that we should hear Mr. Ladner.

Mr. Armstrong.—Well, but Mr. Higgins, you know we cannot go on hearing everybody that comes along. The fishermen in Westminster didn't ask for this.

Mr. Wilmot.—I think we should keep to the rule. Mr. Ladner has already been heard two or three times, and if we hear him again we will only have to go over the whole thing with most of the other witnesses here.

Well, I put it to the Board; what do you say, gentlemen, shall Mr. Ladner be re-heard?

Mr. Armstrong.—I say no.

Mr. Wilmot.—I say no.

Mr. Higgins.—I say yes.

Mr. Higgins.—That will do, Mr. Ladner, the Commission refuses to hear you.

Mr. Ward.—Gentlemen, let me say that you re-called Mr. Ewen half a dozen times and Mr. Port two or three times in New Westminster, and I consider this is disgraceful; your actions in conducting this inquiry are shameful.

Mr. Wilmot.—Order, sir; I call you to order.

Mr. Ward (contemptuously).—Oh, yes; I will keep order.

Mr. Armstrong.—Let me tell you, Mr. Ward, you are not running this Commission.

Mr. Ward (excitedly).—No; I don't want to. I shall not bother you. I tell you publicly, you are acting disgracefully. However, we are done with you for good; for I know, I for one, shall not attend your meetings again.

(Mr. Ward, accompanied, by some others, here left the room. Remarks were inaudible, owing to more or less noise, and several persons speaking at the same time.)

Mr. Armstrong.—I move that this Commission adjourn altogether.

Mr. Wilmot. Shall we adjourn—meeting again on Monday morning—if these gentlemen have any new evidence to give?

Mr. Armstrong.—No witnesses over again. If you have any new witnesses, we will hear them, but not the same persons over again.

Mr. J. H. Todd.—But, gentlemen, is is really your intention to forbid any person supplementing his evidence in any way, if this Commission continues sitting?

Mr. Armstrong.—Well, but Mr. Todd, how long will this go on? You never saw such a thing allowed in any court in the country.

Mr. Todd.—Well, I have been present in a good many courts where counsel has re-called the same witness to give fresh evidence on the same case.

Mr. Armstrong.—Well, just give me an instance.

Mr. Todd.—I cannot cite an instance off-hand, but I will bet you $100 that it is often done.

Mr. Wilmot.—This is not a betting community, sir. Well, gentlemen, shall we adjourn until Monday morning or not? What do you say?

Mr. Higgins.—Yes; till Monday morning.

Mr. Armstrong.—Well, but are there any new witnesses? I was prepared to finish up here to-day, and adjourn from here to Nanaimo, or elsewhere.

Mr. Wilmot.—Then I suggest that we adjourn till Monday morning, if we have new evidence.

Mr. Higgins.—Well, Mr. Chairman, I have new evidence from Mr. Ladner, but if he cannot come, I will call another witness. I will telegraph for him, if necessary, and have him down.

Mr. Wilmot.—Well, that is all right.

Mr. Higgins.—It is not all right. It is all wrong. You are both acting in a harsh, arbitrary manner, and I am very sorry that I accepted a seat at this board, after the way I have seen matters conducted here. You are both acting altogether wrong.

The Chairman declared the Commission adjourned at 3.45 p.m., until 10 a.m., on Monday, 7th March, 1892, at the same place.

Board of Trade Rooms,
Victoria, B.C., 7th March, 1892.

Morning Session.

The Commission was convened and called to order at 10.15 a.m.

Present: Mr. S. Wilmot, in the Chair; Commissioners Higgins and Armstrong, and Mr. Secretary Winter.

Mr. Wilmot.—Before any business is transacted, I wish, gentlemen, to read to you the following statement:—

"Mr. Wilmot begs to submit for the consideration of his associate Commissioners of this Royal Fishery Commission, appointed to investigate matters in relation to the salmon and other fisheries of British Columbia, the following, viz.:

"That this Commission having been formed by the Dominion Government for the purposes above mentioned, but more particularly as regards the salmon fisheries on the Fraser River, where almost the whole of the complaints have originated which brought about the appointment of the Commission, and as the sittings of the Commission have been openly held there in the court house and town hall during ten days, in which some fifty or sixty witnesses, comprising canners, fishermen, and others, were heard in relation to the above mentioned complaints; and as the Commission adjourned to the city of Victoria to obtain further information, and has had four days sittings in the room occupied by the Board of Trade, and has taken evidence from canners, their agents and brokers, fishermen and others, and as no further new evidence is forthcoming, it is expedient in

the interests of the British Columbia Fishing Industry that this Commission should now adjourn to meet at Nanaimo on Wednesday next, unless found necessary to extend the time; and that this Commission then adjourn to the city of Vancouver (or Nanaimo) most suitable to Mr. Higgins in his official capacity as Speaker, for Friday and Saturday, from thence an adjournment to New Westminster to wind up the business of the Commission with the view to making an early report to the Government, so that the Department of Fisheries may be enabled to alter or amend the present regulations to conserve the general interests of the cannerymen, fishermen, and others of the public, for the protection of the fishing industry of the province of British Columbia. It is understood that whichever place of adjournment (to Nanaimo or Vancouver), shall be made upon the days mentioned as most convenient to Mr. Higgins, and that telegraphic despatches be sent at once giving notice of the meetings."

Mr. Wilmot (continuing).—I put that forth as explanatory of our programme of business. I submit this for your consideration.

Mr. Higgins.—Let it lie over Mr. Wilmot for a few minutes. I would ask that the Secretary read over his notes of Saturday's evidence in regard to the discussion upon the question of re-hearing Mr. Ladner.

The Secretary.—I would say, sir, in explanation before reading from my notes that much of the discussion in reference to Mr. Ladner was very animated and from the fact of the tendency for several persons to speak at once and the more or less confusion resulting therefrom, as well as the fact that much was not evidence direct; some person's remarks may be found wanting in my report.

Mr. Higgins.—I wish it read as you have it in your notes; that part referring to Mr. Ladner.

The Secretary thereupon read over the portion of Saturday's evidence referring to the question of hearing Mr. Ladner.

Mr. Wilmot.—Are the Minutes correct?

Mr. Higgins.—I have no fault to find with them. (Continuing). I labour under a disadvantage, as you are aware, to hear this evidence of this Commission. I wrote the department to say that I could not leave Victoria until 15th April, to sit on this Commission, and was obliged to let several of the sittings go by default; of course, it will be considered that the majority of the Commission were present, but I was obliged to let many of them lapse. I may say I have not heard Mr. Ladner's evidence yet, and he is here under his own expense in the city and he has new evidence to give. Now, I put it to you, gentlemen, that I want to hear this evidence. I cannot give a verdict upon the report without the evidence from Mr. Ladner. I have thought over it and I think the Commission should yield this point to me, and so I can form an opinion.

Mr. Wilmot.—Well, I may state for your information that I have instructed the Stenograhper to get up as many pages as can be given you to-day and I think Mr. Ladner's and others will be included in them.

Mr. Higgins.—Yes, but I want to hear Mr. Ladner's new evidence, and I know in courts of law it is often the case.

Mr. Armstrong.—But Mr. Ladner has been called three times.

Mr. Higgins.—Well, but still even if called three or four times what matter—he has new evidence and I wish to hear it.

Mr. Armstrong.—I quite agree with you, Mr. Higgins, but I don't see how we can come to a satisfactory conclusion before we arrive at any conclusion.

Mr. Higgins.—But, I do not see how we can come to any conclusion without the evidence?

Mr. Wilmot.—No, of course we cannot arrive at a conclusion without it.

Mr. Higgins.—Well, but here is Mr. Ladner's evidence—that we would not have. I will pledge my word to Mr. Wilmot and you (to Mr. Armstrong) that I will not ask Mr. Ladner any but new questions.

Mr. Armstrong.—Now Mr. Higgins, you do not know where this will end—if we allow Mr. Ladner to come we will have to allow many others. Now, it is not the rule in a court—I have known cases where counsel has had privilege of re-calling witnesses, but he must state his question, and it is optional whether the judge will allow it or not.

Mr. HIGGINS.—But this is a public enquiry—there is no third party. But I will say, call Mr. Ladner, and no other man will be called.

Mr. ARMSTRONG.—Well, I object to it. These people knew perfectly well this Commission was going to be held—they have known it in Victoria for two weeks, and they have not attended to their business if they don't know.

Mr. HIGGINS.—But, Mr. Ladner is a river man.

Mr. ARMSTRONG.—Well, he has been here three or four times.

Mr. WILMOT.—I find, Mr. Higgins, your statement is perfectly correct and that you wrote the department on the 21st January that you could not leave Victoria to sit on the Commission until 15th April, owing to your duties in the Legislative Assembly. The Minister was away from home at the time and I telegraphed him, and I want to show that there is no attempt to do anything out of reason in connection with the fisheries of this province—I state this so the province will not take a wrong view of the actual case. Now, I find from this file of papers, containing the whole record of the case, that on 26th January, this message was sent to Lt.-Col. Prior and T. Earle, M.P.'s.

"Would be greatly obliged if you would let me know if new Commissioners are ready to act at once, if they are, Mr. Wilmot will go to British Columbia without delay —if not, it will be necessary to cancel commission as far as this season is concerned.

(Signed) CHARLES H. TUPPER.

And in reply to this, the following answer was received :—

"Victoria, 27th January—New Commissioners ready to act—cannot you send one from department who is unbiassed—Wilmot's opinion already formed.

(Sd.) THOS. EARLE, E. G. PRIOR.

To this the Minister replied from Halifax, 29th January :—

"Answer Earle and Prior in my name, and say Mr. Wilmot is in my opinion the most competent officer in the department, and on no condition would I name another for the purpose.

(Sd.) CHARLES H. TUPPER.

Mr. WILMOT (continuing).—I wish to be particular and precise, because there seems to be very strong feelings here, and I wish if there is any doubt in the matter, it should rest in the right place and not in the wrong one. Then, after receipt of Mr. Higgin's letter, stating he could not sit until after the 15th April, unless the meetings were held in Victoria, I telegraphed the Minister as follows :—

"2nd February.—Higgins writes required as Speaker in Victoria till 15th April. If Commissioners sit there can attend meetings. Information sent you to avoid possible complications. Shall I proceed at once?" Oh, previous to this, I find on the 30th January, messages were sent to both Mr. Armstrong at New Westminster and Mr. Higgins at Victoria :—

"Will leave here to meet the Commission early next week.

(Sd.) "S. WILMOT."

Then on the 2nd February, in reply to my message of the same day, the Minister wired me as follows :—

"Proceed British Columbia and hasten proceedings of Commission.

"CHARLES H. TUPPER."

On the journey over from Ottawa, of course, I telegraphed to Mr. Armstrong, at Westminster, being the first place at which the cars would stop :—

"Have you made any arrangements for meeting at Westminster or Victoria?" And the answer was : "Call at Westminster," and I did so. I then tried to make arrangements where we could organize, and I ran back and forward two or three times between Westminster and Victoria to get the Commissioners together, and at last succeeded, and Mr. Higgins came to Westminster on Thursday morning, 19th February, and we proceeded to work Friday and Saturday, from 10 a.m., to 10 p.m. Mr. Higgins

was anxious to get along as much as possible and so were we. Mr. Higgins had then to come to Victoria to attend to Parliamentary business; there was no objection to proceeding with the business.

Mr. Higgins.—None whatever.

Mr. Wilmot.—We then proceeded with the business all the following week and then came over here. We have been here four days, and at times it has been difficult to get witnesses together. Then Mr. Ladner was asked to give further evidence. We made a rule at the beginning to not hear a witness a second time, and I think the matter has been carried on very fairly all the way through; but an impression seems to have prevailed among many of the canners that the chairman has been too self interested in putting questions to witnesses——

Mr. Rithet.—No, sir; no, no.

Mr. Wilmot.—Pardon me, sir; I am addressing the Board.

Mr. Rithet.—Yes; but we are going to deny anything not correct that we hear.

Mr. Wilmot.—Well, I submit this paper embodying my views as to the further carrying on of the business (referring to statement handed in and read at opening of day's proceedings). Now, in this case of Mr. Ladner's, unless exceptionally new matter

——

Mr. Higgins.—Well, we are very much obliged to you, Mr. Chairman, for your very true history of the carrying on of the business; but you have avoided the real matter at issue. Mr. Ladner's evidence is very important, and I do not think you are treating me right in not hearing this evidence. Why should I be deprived of hearing this witness? I cannot make up my mind as quick as you gentlemen.

Mr. Armstrong.—Thank you, sir, thank you.

Mr. Higgins.—Well, I really cannot see why you cannot allow me to hear him.

Mr. Armstrong.—Well, I have no doubt that if this evidence is heard in Westminster, there would be a great many people there, too, who would wish to come forward, and then I do not think it would throw any particular light upon this matter.

Mr. Higgins.—Well, I must say, if I had sufficient spirit, which every one knows I have not, I would retire from this Board at once. You will not hear my witness. Then the Commission is sitting at the wrong tine of the year altogether. I have been unable to hear much of the evidence, being obliged by my other duties to be absent.

Mr. Arnstrong.—Well, excuse me. We cannot go on hearing the same persons over and over again, and if we allow one, we will have to allow many. Besides, Mr. Ladner has been heard several times already.

Mr. Wilmot.—One matter I must correct, and that is this: on behalf of the Government who were instrumental in forming this Commission, at the request of all the members of Parliament of British Columbia, you should not make remarks that it is the wrong time for the Commission to sit. This thing has been urged for some three or four years, and I think this is the third set of Commissioners who have been appointed but who would not act, and then after appointment, the Minister wired Messrs. Earle and Prior, M.P.'s for Victoria: "Would be greatly obliged if you would let me know if new Commissioners ready to act." Now, what was the reply to that? Messrs. Earle and Prior stated: "Fishery Commissioners ready to act." Thereupon, the Minister telegraphed Mr. Wilmot to proceed at once. Now, if they were not ready, or anything was in the way of the Commission going on to business, why could they not telegraph and tell us. And I think that everything has been done that could have been done in the matter.

Mr. Higgins.—I have no complaint to make, and although I think the Government has done everything they could, but here I am not allowed to hear my witness.

Mr. Wilmot.—Well, we are here as public persons, Mr. Higgins, and not as private persons.

Mr. Armstrong.—Well, I think if Mr. Ladner wanted to give evidence, he could have given it in New Westminster.

Mr. Higgins.—Well, will you hear him in New Westminster?

Mr. Armstrong.—We will consider it if he comes up there.

Mr. Wilmot.—If Mr. Ladner asks to be heard at Westminster, and if a majority of the Board says he will be heard, he will be received.

Mr. HIGGINS.—Oh, fie, Mr. Wilmot, I enter my protest against these proceedings. I will have it out at Ottawa, if I have to go there and pay my own expenses. An unjust proceeding, that I am not to be on the same footing as you other gentlemen.

Mr. ARMSTRONG.—It was your own fault, sir; why could you not have attended the sessions?

Mr. HIGGINS.—Well, you know very well my other duties have prevented me.

Mr. WILMOT.—I think none of you gentlemen have any complaint to make of me. I have always been on hand.

Mr. ARMSTRONG.—Well, have you any witnesses?

Mr. HIGGINS.—Well, I call Mr. Ladner. If you object to it, I want it to go on the Minutes. Is Mr. Ladner's evidence objected to?

Mr. ARMSTRONG.—Objected to.

Mr. WILMOT.—Objected to.

Mr. HIGGINS.—Very well, Mr. Ladner, it is declined to hear you.

Mr. WILMOT.—Well, now about this matter which I have laid before you, I thought it should be before all the Board. Now, in regard to our adjournment to Nanaimo or Vancouver, as far as I am concerned, it will be made to suit the convenience of Mr. Higgins, either on Friday or Saturday. We have heard that evidence will be forthcoming at those places.

Mr. ARMSTRONG.—I am willing to leave it to Mr. Higgins's convenience.

Mr. HIGGINS—Well, I think I can be at Nanaimo on Saturday.

Mr. WILMOT.—But my proposition was that we adjourn to-day to commence at Nanaimo on Wednesday; therefore, if we adjourn to-day to meet either at Nanaimo or Vancouver at your convenience, we will send telegraphic despatches to these places that the Commission will commence at a certain time at these points.

Mr. HIGGINS.—Well, but I cannot be there.

Mr. WILMOT.—Well, but cannot you say if you will be at Nanaimo or Vancouver on Friday or Saturday?

Mr. ARMSTRONG.—But if Mr. Wilmot is to have sittings at both places this week, I think Nanaimo is the most important place and I would prefer we all met there.

Mr. HIGGINS.—On Saturday?

Mr. ARMSTRONG.—Yes, on Saturday. I think there is more fishing round Nanaimo than Vancouver.

Mr. WILMOT.—Well, gentlemen, I am at your disposal. If you think it is necessary to wait until Friday or Saturday, all right. I would also like to suggest to my brother Commissioners that it will be important for the Commission to get down the Fraser River and see these localities we have heard of; I think we should do so.

Mr. ARMSTRONG.—Yes, I think we should go there.

Mr. HIGGINS (jocularly).—Well, in consideration of Mr. Armstrong's toe, I think we should go where he says.

Mr. ARMSTRONG.—But is it not possible, Mr. Higgins, you could make it convenient to come and go down the river with us.

Mr. HIGGINS.—I could go on Sunday.

Mr. ARMSTRONG.—I object to that decidedly; we cannot go on public business on Sunday.

Mr. HIGGINS.—Oh, then we will take a chaplain. (Laughter.)

Mr. WILMOT.—Well, gentlemen, now where will we say. Which will you prefer, Nanaimo or Vancouver?

Mr. HIGGINS.—I cannot be there on Wednesday; well, I raise no question; set your own time and place; I can be at one place on either Friday or Saturday.

Mr. WILMOT.—I think it will be most important for the Commission to sit at Nanaimo or Vancouver. There are important sea fisheries there, but if you do not think it advisable to go there, why say so. I am perfectly well aware that cannerymen and others are looking forward anxiously to the report from the Commission, and I think we should expedite business.

Mr. HIGGINS.—Well, I think I will go to Vancouver.

Mr. WILMOT.—Well, then we shall record that the Commission will adjourn to-day to meet at Nanaimo on Wednesday and then adjourn to Vancouver at 1 p.m., on Friday.

Mr. Armstrong.—I think Mr. Higgins should come to Nanaimo.

Mr. Higgins.—I prefer to go to Vancouver.

Mr. Wilmot.—And that telegraphic despatches be sent to the papers at Nanaimo and Vancouver giving notice to that effect.

Mr. Armstrong.—It would be important to insert in the notice where we should meet at those places.

Mr. Wilmot.—Can any gentleman give us any information about these places where we could meet?

Mr. Higgins.—Could you not say Saturday at Vancouver?

Mr. Wilmot.—Well, I make this proposition—that we meet at Vancouver at 1 p.m. on Friday and take such evidence as will offer, but that the evidence will be read over to Mr. Higgins the following day.

Mr. Rithet.—I wish to be called to give evidence on a point on which I did not give evidence the other day.

Mr. Armstrong.—We have not settled this point yet.

Mr. Rithet.—Oh, I thought you had.

Mr. Armstrong.—I think we should meet Saturday at 10 a.m., at Vancouver, and Nanaimo at 10 a.m., Wednesday.

Mr. Rithet.—I repeat my question to be heard upon a point upon which I was not questioned when I gave evidence.

Mr. Armstrong.—It is the same question.

Mr. Rithet.—Oh, no; it is quite a different matter—I would not ask the Commission to be put on the stand on the same question, but it is upon a matter which was not put to me which was put to others—it is but one point.

Mr. Armstrong.—Oh, no; if we hear you we will have to hear others.

Mr. Wilmot.—Yes, if the rule is once broken there can be no deviations from it, and as Mr. Armstrong has stated the other day, if any one has anything to say let him put it in writing—but it has been decided that no one can be heard twice.

Mr. Higgins.—I think if Mr. Rithet has evidence he should be heard.

Mr. Wilmot.—If Mr. Rithet has anything to give us let him put it in writing.

Mr. Rithet.—But I want to give this under oath as other evidence has been given.

Mr. Higgins.—Oh, well; you can put it in writing and then make an affidavit under oath before a magistrate. (Continuing—perusing evidence given at Westminster). Now here it has been stated that no one was called the second time, and here is the evidence that at Westminster, Mr. Port was called a second time and heard.

Mr. Wilmot.—Exactly, but the majority of the Board consented to it—in the present case the majority of the Board do not consent to it.

Mr. Rithet.—Well, but if you are not going to hear me, can you be surprised that we have such opinions of this Commission?

Mr. Wilmot.—Well, Mr. Rithet, when any man comes forward to give evidence we ask him his name, etc., and then he is asked if he has any matters to state to us.

Mr. Rithet.—Yes, I remember that, but this point has arisen to me subsequent to my giving my evidence—I was not cross-questioned on this point, and I heard it given by other parties, and it was not given as intended to be given.

Mr. Wilmot.—Well, but how can you give a statement under oath to contradict another man's evidence?

Mr. Higgins.—What? Why Port has done this in Westminster.

Mr. Rithet.—I am going to give my statement from figures. My application is noted both by the press and the stenographer for the commission—I have done my duty—I will have further to say about it later.

Mr. Wilmot.—We regret very much sir, to say that we must adhere to the majority wishes of the Commission.

Mr. Rithet.—My application is declined—am I to understand it to that effect?

Mr. Wilmot.—Your application is declined.

Mr. Rithet.—(sarcastically). Thank you, sir.

Mr. Higgins.—Well, I wish it inserted in the minutes that I vote for everybody being heard.

Mr. Armstrong.—I fear if we allowed these persons to be heard they would incriminate each other.

Mr. Wilmot.—If the question arose among some ignorant fishermen or persons not conversant with the rules of public order, but here are gentlemen versed in matters connected with the conduct of public business, and if we heard all persons repeatedly, why it would take all summer.

Mr. Rithet.—But I am in order, sir. I come to speak on facts.

Mr. Wilmot.—And it is equally advisable for the authority to say they shall not be heard.

Mr. Higgins.—How would it do for us to adjourn and take legal advice upon the matter?

Mr. Armstrong.—Well, but we could call in all the legal men in the city, and would you have them discussing these matters?

Mr. Higgins.—Yes; have everybody who could give us information.

Mr. Armstrong. Well, that perhaps would be all right. I know they would not agree. (Laughter.)

Mr. Wilmot.—Well, is there any further evidence?

Mr. J. H. Todd.—I wish to be permitted to put in this paper as evidence, the 5th annual report of the State Board of Fish Commissioners to the Governor of Oregon, published by authority, 1891. (See pp. 10 and 11.)

MATTHEW JOHNSTON, a native of Scotland, 28 years in British Columbia, a resident of Victoria, and manager of the British Columbia Canning Company, was duly sworn.

Mr. Wilmot.—Well, sir?—A. I would like to say something on the question of the impression as to profits made by canners. I have seen it told that the profits are something enormous; but having been connected with canneries since 1876, I am in a position to say that is a wrong impression. It is a very fluctuating business; some years fair profits are made, and other years no profits are made, and in the years 1884 and 1885, the losses were so heavy, and the business in such a bad state that many canneries suspended—some went to the wall altogether, and never resumed operations. We have now to compete with Alaska, where fish is packed cheaper than we can pack, and it is only by keeping up our reputation that we can make any profits at all. Last year, I venture to say, the canners will not make any profit, or if any, extremely small, and this year the prospects are not much better. I saw it stated that $5,000 would equip a cannery or build a cannery. That is utterly wrong. I think if it was stated $25,000, as about an average, it would be nearer the mark. Then, besides the actual capital invested in the canneries, the plant and buildings, etc., one must be provided with working capital, which is a very large sum, and I think that statement about $5,000 altogether wrong. That is all I have to say on the subject of the impression which I see abroad.

Mr. Armstrong.—Well, you see the statement in that case was a mistake; you see another man was altogether wrong.—A. Well, it was not a mistake; that is another way of putting it.

By Mr. Wilmot:

Q. Anything further, sir?—A. Not on that subject. I have something further to say on the subject of licenses. Last year, as I understand, the regulations that the department intended to enforce was fair enough: that is, that each cannery should have a certain number of boats. That in principle seems right enough, but a number of buildings, not canneries, obtained licenses also, and those licenses were really used for other canneries altogether. I thought that was an injustice to us at the time, and protested to the department.

Q. You protested at the time?—A. I protested to the Fisheries Inspector at New Westminster, and I believe the department did not intend that those licenses should be issued.

Q. You say you think the department did not intend these licenses to be issued for these new canneries?—A. No; I do not think it did.

Q. Could you give your reasons, Mr. Johnston?—A. Well, I had a telegram from Mr. Earle on the subject, which I can get if necessary.

Q. Oh, no; your word is sufficient.—A. It is a telegram in which he stated that only those canneries in operation should have licenses, but they were not observed. I think if the principle was observed of giving each cannery in actual operation a certain number of licenses—twenty-five we hope to get—and only give those licenses to canners actually engaged in business, I think the canners would be satisfied. As to fishermen, I think that if suggestions already made that those licenses should be given only to actual fishermen, and one for each boat, made not transferable, but the license fee to be equal, that we would find that system would work without injury to any one.

Q. Then I understand, Mr. Johnston, that you complain that additional licenses were granted for a number that you were supposed to obtain, to other parties, merely for the purpose of getting licenses?—A. I do not say for mere purpose of getting licenses, but they were not running. At the time I made this complaint, they were not in operation.

Q. The object was then to get the double number?—A. They were put up anyway.

Q. I remember, Mr. Johnston, hearing that licenses had been given to persons who had simply put up a cannery for the view of getting a double set of licenses—that was one of the views in Ottawa, but I don't know.—A. I was going to say that another year they adopted the principle of issuing licenses according to the capacity of canneries, but I think we were able to convince the department that was a wrong principle, and, as far as we were concerned, they gave way and increased our licenses. Of course, if capacity was to be taken, we were ready to increase our capacity to any on the river, and we claim rights on the river because we were established as soon, if not before any other cannery. I may say I represent five canneries in the province.

Q. Could you give the names, if convenient?—A. I represent canneries both on the Fraser River and northern rivers. Of course, I am not an expert, and I do not think I need submit my views on the offal question, except that I know our canneries do not hurt any one by depositing it in the river.

Q. The reason I asked the names——A. Oh, the names. On the Fraser River, "Deeside;" on Rivers Inlet, one is known as "Rivers Inlet Cannery" and "Victoria Cannery," and we have a fishery there as well known as the "Standard" (?) or "Windsor" (?) fishery; on the Skeena, we have the "Aberdeen," and on the Naas River, we have a cannery known as the "Naas River."

Q. What is the name on the Skeena?—A. The Windsor Cannery.

Q. The new cannery?—A. No; it has been in operation; it is situated farthest up.

Q. How many licenses do you get for that cannery?—A. Twenty-two, I think. We had an equal number with others.

Q. I think other parties stated about forty?

By Mr. Armstrong:

Q. Is Mr. Dempster manager up there? I think we have his figures?—A. Yes he is manager of that cannery.

By Mr. Wilmot:

Q. Are seines used in any of these rivers?—A. No; only gill-nets.

Q. Seining is not carried on?—No.

Q. Your statement is that you hope to get twenty-five licenses. Do you consider that is sufficient to run your establishment?—A. No; we would require to get outside boats beyond that.

Q. Do I understand you that you would throw open to the river the building of as many canneries as people might desire, or do you wish to exclude others from building there beyond what is now built?—A. Well, if it lay with me, I would exclude more canneries.

Q. Well, sir, that is an important matter which has come before the department and this Commission. It has been represented that if new ones were built it would

effect trade generally and commerce. Well, now, if twenty-five would be all you ask for, and there were forty canneries built instead of twenty-two, how would that affect you?—A. I imagine it would be a case of the "survival of the fittest."

Q. Well, you can readily understand it has been a difficult matter for the authorities to decide. Persons contend that they should be allowed to build as many as they like.

By Mr. Armstrong:

Q. Do you think all canneries on the Fraser River should have the same number of licenses?—A. I think so; that is, we should not have less than any other cannery.

By Mr. Wilmot:

Q. And how about the others?—A. Well, we want to be on the same footing as others.

Q. You want twenty-five boats, and licenses should be given to fishermen who are British subjects?—A. Yes.

Q. And if all these licenses were issued, it would make a great number, and if fishermen got all, would it not affect the river?—A. I think there should be a certain number.

Q. What number would you say?—A. I think if the regulation was maintained as to distance where nets are put in the river, you could limit the boats that could fish on the river.

Q. Could you limit the boats to certain distances when fish are coming in?—A. Well, there are regulations to that effect.

Q. Yes; but when a large run of fish is coming in, you could understand it would be very hard to keep the boats so far apart, and thus it is necessary to make a certain number—500 or 600. Would that be sufficient to protect the river?—A. Well, as I have stated before, I think the licenses—so many given to each cannery, and fees made equal, and other restrictions, will prevent there being too many boats, and would be sufficient to protect the fishing interests of the river.

Q. You are not desirous of going into the offal question?—A. No.

Q. But I might ask what are your views on the effect of throwing in this offal on fish or the human family?—A. Well, as regards the human family, I think if I was a resident at certain parts, I should not care to be a resident, but in other parts, I think it should not effect.

Q. How does it affect the town of Delta?—A. Well, our offal does not reach there.

Q. But we are speaking of offal generally?—A. Well, I am not prepared to give an answer as regards the Delta.

Q. Well, if your cannery was situated there?—A. I would like to have an opportunity of observing first, before I answer that question.

Q. Have you formed any views as regards the correctness of the close season?—A. I have not formed any views. Our managers have expressed themselves satisfied with the present regulations as it seems to work very well.

Q. It has been represented that it is unfair that part of the Sunday should be allowed for carrying on fishing. Many fishermen have respect for Sunday as a day of rest, etc., while there is fishing on that day; many think it should terminate at 12 o'clock?—A. Well, I can only express the general view of our fishermen, namely, that the present regulation is found to work well.

Q. You think the licenses should be non-transferable?—A. I think not.

Q. And the fees also should be alike?—A. Yes; for the Fraser River, fishermen and canners alike.

Q. Well, as regards the Skeena and Naas River?—A. I think the present rule should govern, but if hatcheries are put up, I would be different. Now, at Rivers Inlet one might be put up.

Q. Oh, I forgot to ask you that question. What do you think of the effect of hatcheries?—A. I am not able to give an opinion on that subject.

Q. But what do the most of the fishermen and others think. You, as an experienced man, and having a good deal to do with the fisheries, could you not tell us?—A. Well, the general opinion is that it cannot do any harm and may do a good deal of good, but I do not think we are in a position yet to give any decided opinion upon it.

Q. But you would like one at Rivers Inlet?—A. I think it might be considered. It might not be found a good place for one, but I think the question of hatcheries for the northern rivers should be considered.

Q. Can you tell us the average catch of your canneries? What was the number of fish taken in the cannery to make your output?—A. I am sorry to say my knowledge of that is not sufficient to enable me to give any correct answer.

Q. But could you not say from information you have from your workmen?—A. Well, I have heard, I think, it takes about 10 or 12 fish to a case; but I could get this information, as we record in our books the catch of each boat, and that book is at the disposal of the Commission if they require it.

Q. It would be well if you could transcribe from that book the average number for the last few years; the object of the Commission is to get all information possible upon this question; I have noticed that many think the object of the department is to curtail as much as possible the working of this great industry, but it is quite incorrect; the department does not desire to curtail at all this great industry. Have you anything more to say, Mr. Johnston, on any of the leading questions?—A. No; I have nothing further to say.

By Mr. Higgins:

Q. Have you had any experience in establishing an oilery or establishment for taking care of this offal?—A. We contributed offal from our cannery for two years, but we had no interest in the factory beyond putting $50 in it for the privilege of being allowed to give them our offal.

Q. Do you know the result of that oilery?—A. I have no personal knowledge, but I have heard it was not a success.

Q. How long ago was that?—A. I heard it last year, but I did not think they intended doing it again. We paid them $50 for receiving it and delivered it.

Q. Did they make fish manure out of it?—A. No; I think they only made some oil.

Q. Can you give amount of capital invested in canneries on the Fraser River particularly?—A. Well, it is information I should not like to give an answer off-hand.

Q. When could you give it—later on in the day?—A. I think so.

Q. Would that be admissible, Mr. Chairman?

Mr. Wilmot.—Well, if he wishes to give this in writing.

Mr. Higgins.—I would prefer it being given in evidence. I think it would be inconsistent with our practice to have it sworn to. We can adjourn now, and Mr. Johnston can come back again.

By Mr. Wilmot:

Q. Will it answer your purpose, sir, to come again?—A. Any time, sir, it answers your purpose, I shall be glad to come in.

Mr. Higgins.—Only that I cannot be here to hear you.

Mr. Wilmot.—Well, but if he gave it in writing, would it not do?

Mr. Higgins.—Yes; I presume it would. What I require also, Mr. Johnston—I would require the amount given for rolling capital—to keep matters going.

Mr. Wilmot.—Well, if he gives other canneries, it will require cross-examination. It might require investigation on account of other canneries.

Mr. Higgins.—Well, but never mind the expenses of other canneries—we want the amount of capital invested. I ask him his opinion of the value of capital invested on the Fraser River.

Mr. Wilmot.—Well, then, if he only gives an opinion, it will come in as information only.

Mr. Higgins.—Well, but that is what we want to get at.

By Mr. Wilmot:

Q. Have you anything further to say—Would you prefer to put it in writing or appear before the board?—A. Just whatever suits you, sir.

By Mr. Armstrong:

Q. Very well; put it in writing.—A. Very well; it will be put in.

FRANCIS PAGE, a native of Scotland, in British Columbia since 1862, a merchant, and resident of Victoria, was duly sworn.

By Mr. Wilmot :

Q. Have you anything to submit to this Commission?—A. Well, I wish to submit the annual inventory of one of the canneries on the Fraser River, in which I am interested, with amount of stock we carry over, amount of plant, etc.

Q. What cannery is that, sir?—A. The "Wellington" is one and the "Delta" also.

Q. Both on the Fraser River?—Yes; one at the mouth of Canoe Pass, and the other at Colithuan Slough.

Q. You are interested as proprietor, are you?—A. Yes.

Q. Well, if you have any suggestion to make?—A. I would merely wish to show the amount of money invested in a cannery, buildings and plant, and stock carried over and steam-boat.

Q. Would you call a steam-boat as part of the plant?—A. Well, no; but it is part of the whole. I would give buildings and machinery and material carried over.

Q. What do you mean by material carried over?—A. Well, the material we could not use during the season.

Q. Not the actual goods carried over?—A. Oh, no.

Q. Well, now, value of buildings and machinery?—A. Buildings, $14,965; machinery, $9,530; material for making cans, etc., $14,098; office furniture, $232; mess house, $67; steamer, $3,000; total, $41,892. The land we valued at $150 an acre, but to-day it is worth $500 for the purposes we use it.

By Mr. Armstrong :

Q. How much land have you got?—A. Fifteen acres.

Q. Oh, but you do not require that much land for a cannery?—A. Well, most of it is required; the land is needed for Indians' houses, etc.

Q. How much for the "Delta" cannery?—A. Five acres.

By Mr. Higgins :

Q. What is the total of that?—A. $41,892, and that is all capital lying idle.

By Mr. Wilmot :

Q. How do you mean lying idle?—A. Well, we have to carry it over for next season.

Q. Can you tell us how many cans of fish you sold last year?—A. I cannot tell you, sir, but I could find it out from our agent.

Q. If I tell you, sir, cannot I come pretty nearly correct?—A. I don't know.

Q. You say the "Wellington" is one?—A. Yes, and the "Delta."

Q. Now, cannot you give us an idea; there were 12,870 cases recorded as coming out of the "Delta" the year before last; has value of property increased since 1890 to 1891?—A. I think it has increased.

Q. Well, what was value in 1890?—A. Well, this money is what the cannery cost us.

Q. Do you say this is invested here or invested last year?—A. Yes, sir.

Q. And you say land is increasing?—A. This is an inventory of the property.

Q. Precisely, and you say it was worth so much in 1891; now, what was it worth in 1890?—A. We have not valued it at any more than we did a year ago.

Q. Well, what was your invoice a year ago?—A. I have not got it here; the land of course increased; the values are the same; the buildings, etc.

Q. Well, we will let that drop; can you tell us the value of the stock, the canned salmon, as made at "Wellington" cannery?—A. Well, that is a very hard thing to say; it depends how much you pay for your fish.

Q. Yes; but if persons keep such an accurate account they would surely give figures of pack?

Mr. RITHET (from audience)—Now, this just shows the folly of the working of the Commission. These matters are matters which I wished to bring to the notice of the Commission. Mr. Page is not familiar with them. I could have given you all information you wished and stood cross-examination, but you would not let me.

Mr. WILMOT.—Then, Mr. Page, you cannot give the value except from such papers as you have?

Mr. HIGGINS.—I think Mr. Page has answered these questions very satisfactorily.

By Mr. Armstrong:

Q. Do you include the land in the forty-one thousand odd?—A. Certainly, the land is valued at cost; it is what we paid for it ten years ago; I have the inventory also of the "Delta" cannery.

Mr. HIGGINS.—Then it is capital invested.

Mr. WILMOT.—Well, as I stated, Mr. Page, when you put in papers with figures you are liable to cross-examination, otherwise it would not show.

Mr. HIGGINS.—I think it is very good evidence.

By Mr. Wilmot:

Q. Have you anything else?—A. I have an inventory of the "Delta" as well.

Q. And are you prepared to answer questions on it?—A. I have not had very much time to become familiar with the statement, but I daresay this is an inventory of the cannery and plant of the "Delta."

Q. What does "cannery and plant" mean, sir?—A. First of all there is the cannery buildings, $9,000.

Q. And land also?—A. Yes; the land goes in with it.

Buildings and land	$9,000
Steam boiler	1,200

Q. The "cannery" means then simply the building, the shed?—A. Yes.

Q. Very well; go on?—A. 2 "Hagar" pumps, $518; 1 injector and fittings, $60; steam-fittings, pipes, etc., $500; 14 kettles and coils for boiling fish in, $420; piping for steam pumps, $40; 145 coolers at $6 apiece, $870; 200 coolers at $4.50 apiece (for flat cans) $900.

Q. How large are they in size?—A. I could not exactly tell you; they are quite three feet.

Q. How deep?—A. From two to four inches.

Q. And how wide apart?—A. Quite three feet. (continuing reading)

7 travellers	$40

Q. Living or dead travellers? (Laughter)—A. They are living when you pull them with a rod. I saw one once fall on a Chinaman's head and he thought it was alive then. (Laughter.)

Cooler covers	$70

Q. Is that for keeping them from getting "swelled heads"?—A. Oh, no. (Laughter.)

Q. Well, if you will put in the whole paper we will take them?—A. Why, yes, sir.

Mr. RITHET.—But these papers are ours; we don't want to leave them with you.

Mr. WILMOT.—But if you put in these matters we must keep the evidence. I want to keep these facts.

Mr. HIGGINS.—But here is a recapitulation, would not that do? All these little matters do you not think they are necessary for a cannery?

Mr. WILMOT.—Well, that is just it. I don't think all these things are necessary for running a cannery. Now let us bring this matter to an end; are you willing to put this in, if not, we will consider that you refuse to put these figures in.

Mr. HIGGINS.—Do you put that paper in as evidence?

(Witness demurs and pauses.)

By Mr. Wilmot:

Q. Give us the gross amount; I am satisfied with that?—A. $36,346.46 for the "Delta" cannery.

Mr. RITHET.—Less the——(remainder of sentence inaudible.)

Mr. ARMSTRONG.—Mr. Rithet, this is our business, not yours.

Mr. PAGE.—The total amount is $37,969.76.

By Mr. Wilmot:

Q. Do you give us that paper as evidence or not?—A. I cannot part with this paper, sir.

By Mr Higgins:

Q. Now, what is the working capital required to carry on this cannery; have you any idea of that?—A. Well, I don't know exactly how much it costs to put up a case of salmon: some years it costs more than others; last year I guess it cost nearly $4.

Q. Do you remember how many you put up last year?—A. About 12,000.

Q. In 1891 you put up 12,000?—A. Well, figures cannot lie if put in in evidence.

Mr. ARMSTRONG.—Well, I insist in this, these papers being put in in evidence. In a court you must put in any papers you offer.

Mr. RITHET.—A court is a permanent institution, but this is different.

Mr. ARMSTRONG.—I te l you Mr. Rithet we have all the powers and authority of a Supreme Court.

Mr. WILMOT.—More than that we are a Royal Commission.

Mr. RITHET.—Oh, I know—I have been on a Royal Commission before now.

Mr. WILMOT.—Matters given here and submitted to the Government are supposed to assist the Government in regulating these important matters and any papers put in should be left with us.

By Mr. Higgins:

Q. Well now, you say working capacity for 12,000 cases?—A. Yes, about that.

By Mr. Wilmot:

Q. Have you taken that statement from the paper in your hands or not? A. I have taken them from this myself.

Q. Do you put that paper in as evidence?—A. No, I do not.

Q. If you are asked to put that in as evidence you say no?—A. I say no—it does not belong to me.

Q. Then you are giving your evidence upon another persons statement?—A. Yes.

Q. Very well, that is all I want to know. I now put it to the Board whether this evidence given by Mr. Page shall be taken as evidence, unless the paper is given?

Mr. ARMSTRONG.—I say it is not evidence at all.

Mr. HIGGINS.—I say it is most important evidence.

Mr. WILMOT.—I say it is not evidence at all for this Commission unless the paper is given to us.

Mr. ARMSTRONG.—Well now, gentlemen, you refuse to put in this paper—we will give you a copy of it—how do we know it is genuine?

Mr. RITHET (indignantly).—It is genuine, sir.

By Mr. Wilmot:

Q. Then you refuse to put in the paper?—A. Yes; I have said so before.

Q. Have you anything further to say, Mr. Page?—A. No.

Mr. J. H. TODD.—I wish to ask a question of privilege— it is in regard to the question put to Mr. Ashdowne Green, the other day, when asked if he had been sworn. I see this following report in the *Colonist* of yesterday:—

"Mr. Todd," said Mr. Wilmot, "represented to me that not only had you not been sworn, but furthermore that the omission on my part was intentional."

Mr. WILMOT.—I made that statement.

Mr. TODD.—Well, now I beg to differ from you entirely, and I think if you will re-call the circumstances of the case you will see that my contention is correct. Now, if you will recollect that when Mr. Lomas came to give his evidence, I whispered to you

that Mr. Lomas was being heard without being sworn—Mr. Lomas then turned to me and said "you don't believe me unless I am sworn?" I then said, I was quite ready to accept his word with or without his oath, but others might construe it differently, or words to that effect.

Mr. Wilmot.—But it is the same thing, Mr. Tood—what you said was the same thing—now, if Mr. Todd wishes to make an apology—

Mr. Todd.—You are entirely and totally wrong in making such a statement.

Mr. Wilmot.—As far as I am personally concerned, it does not matter.

Mr. Todd.—But it matters to me, and I say that the statement you made was a deliberate untruth—it was an untruth.

Mr. Higgins.—Oh yes: take it back Mr. Chairman.

Mr. Wilmot.—No, sir; I won't take back what is untrue.

Mr. Todd (emphatically and striking the table with his fist).—It is an untruth, sir—I deny it emphatically.

Mr. Rithet.—Hear, hear.

Mr. Wilmot.—Mr. Secretary, you will take down the fact of this applause.

Mr. Rithet.—Yes, you can take my name too.

Mr. Wilmot.—(to Mr. Todd). And do you still mean to say, sir, that what is attributed to you in that paper is not true?

Mr. Todd.—Certainly I do—I appeal to anybody who was present yesterday and will ask them who is right in the matter.

Mr. Wilmot.—Oh, well never mind—we will adjourn now—to meet again here at 2.30 P.M.

The Commission adjourned at 1 p.m., to meet again at the same place at 2.30 p.m.

Board of Trade Rooms,
Victoria, B.C., 7th March, 1892.

Afternoon Session.

The Commission met at 2.40 p.m.

Present: Commissioners Wilmot, in the Chair, and Armstrong, Mr. Secretary Winter.

On question by the Chair if any witnesses, and there being no response, the Commission was declared adjourned until 3 p.m.

At 3 p.m., the Commission was again called to order.

After an informal discussion by the Commissioners it was decided to permit Mr. M. Johnston to submit his statement by mail as he was not quite prepared to submit it at this sitting.

Mr. D. J. Munn.—May I ask, Mr. Commissioners, if you intend taking evidence again at Westminster?

Mr. Wilmot.—I cannot say—if the matter is brought before us we may consider it, but I am not prepared to say we will or will not.

Mr. Munn.—I would like to know, because I know of an important witness, and if he had a few days to look up matters, he would give very important evidence.

Mr. Armstrong.—Where does he reside?

Mr. Munn.—At Westminster.

Mr. Armstrong.—Well, we will be taking evidence at Vancouver on Saturday—we cannot say until we get back to Westminster.

Mr. Munn.—Well, I was just thinking as he was a Westminster man, it would take off time in taking evidence at Vancouver.

Mr. Armstrong.—Well, we don't know if there are any at all, or how many.

Mr. Wilmot.—Yes, and if Mr. Higgins can come with us and go down the river and see the location of these places of which we have heard.

Mr. Munn.—I should like very much to get this man's evidence in—he is a new man, and it would be most important.

Mr. WILMOT.—Well, if there is nothing else before the Board we will adjourn till 1 p.m., on Wednesday, at Nanaimo, and so that it could be made known, I would suggest we wire the papers at Nanaimo and Vancouver to put in advertisements, notifying the public of the meetings in those places. From Nanaimo the Commission will adjourn until 1.10 a.m., on Saturday, at Vancouver.

The Commission thereupon adjourned at 3.10 p.m., to meet in Nanaimo at 10 a.m., on 9th March, 1892.

The following written statements were received from Mr. M. J. Johnston, who gave the main portion of his evidence at Victoria, on 7th March—and were received as a portion or addition to such evidence.

"VICTORIA, B.C., 11th March, 1892.

"The Secretary,
"The Fisheries Commmission,
Vancouver, B.C.

"SIR,—For the information of the Commissioners, I beg to state in reply to the question which was addressed to me, viz.:—

"How many salmon were used for canning purposes and how many cases were packed with same at the Fraser River cannery—Deas' Island, last season?" "That 80,745 salmon (sockeyes) were supplied to the cannery, and were used in packing 7,137 cases of 48 one pound tins each—being an average of $11\frac{22}{71}$ fish per case. A tin, nominally one pound, contains more than a pound of fish—about $17\frac{1}{2}$ ounces as an average?"

"I am, sir,
"Your obedient Servant,
"(Signed), MATTHEW J. JOHNSTON."

VICTORIA, B.C., 11th March, 1892.

"The Secretary,
The Fisheries Commission,
Vancouver, B.C.

"SIR,—I was requested to give an approximate estimate of the amount of capital invested in the canneries in operation on the Fraser River, and in reply to which, I beg to submit the following figures as my estimate :—

Average cost of land, buildings, machinery and plant.....	$ 25,000
40 boats, complete with sails, etc., at $40.....	2,000
60 nets complete, at $150.....	9,000
Steam-boat and scows.....	4,000
	$40,000
Capital required for a pack of 12,000 cases :—	
Material, labour, freights, insurance, etc., at $3.75 per case.	$ 45,000
An average of each cannery of.....	$85,000
Or for 22 canneries, $1,870,000.....	

(Signed), MATTHEW J. JOHNSTON.

NANAIMO, B.C., 9th March, 1892.

The Commission was convened in the City Hall at 3 o'clock p.m., according to previous arrangement.

Present :—Mr. S. Wilmot in the Chair, Mr. Sheriff Armstrong, Mr. Secretary Winter. Several persons being present.

Mr. WILMOT.—In calling this meeting to order, I may say, gentlemen, that the Dominion Government has upon the representations of the British Columbia members of Parliament appointed a commission, consisting of myself, Chairman, the Honourable Speaker Higgins and Mr. Sheriff Armstrong, of New Westminster. The more special object of the Commission was to obtain voluntary information on the whole question of the fisheries of the province either by statement offered or by questioning by the Commissioners—the sea fisheries as well as the river fisheries will come under the scope of the Commission—and we will be glad to hear about any fisheries in your neighbourhood. I may further state that this Commission being duly organized, etc., as a Royal Commission, we follow out the usual course followed in a court—all evidence will be taken under oath, and questions put and answered under oath. I cannot help but draw attention to the fact that we have been rather forestalled in coming here. I see by your *Free Press* that some young men here have been discussing in a mock parliament the matter of seines, etc., also the matter of slabs and saw-dust being put in the river and which is claimed to kill young fish. That is a most important matter and one we will take up. I also see it stated that this Commission is now sitting in Victoria, and will make a report at an early day. We will now proceed to business.

WALTER ROOS, a native of Russia, a British subject, resident in Nanaimo for seven years, and describing himself as a deep-sea fisher, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, if you have any remarks or suggestion, we will be glad to hear them. —A. Well, first, I will answer to your allusion to our mock parliament. I am the person that originated it here, and it is rather incorrectly reported. It is not the seining across the river, but a tug that is the trouble in the Gulf. I have had boats fishing these last three months. During that time, the principal fish that I have received—has been ling cod. A limited number of the northern cod, or some kind of cod that is caught on the Atlantic coast, or on the banks, are caught, but they are limited here. One day the man brought in twenty.

Q. Do you conflict them with black cod?—A. That is real genuine black cod. These fish are very small in size—not averaging over from four to seven pounds—none that I have caught any way. I have also caught some turbot. Now, I am not aware I have ever eaten nor seen turbot on the Pacific coast before. We have had, perhaps, a couple of dozen. They are very scarce, but the practical man I employ tells me the turbot goes in very deep water, and the deepest water we have so far tried is 150 fathoms. I may also say that halibut is to be caught in this district—not that I would warrant any outside fishermen, say from the east or anywhere else, to come here under the belief that there was a great halibut industry here, but there is halibut, and they are now and then brought in, and I know there is a halibut fishery within ten or fifteen miles. So far, the trawl has been a failure—both halibut and other fisheries. The great drawback is in regard to the disposal of the fish.

Q. Not for want of fish, but a market?—A. Oh, there is an abundant supply of ling cod, but not sufficient of halibut and turbot, not even to supply the local market; but ling, caught for sale, could have been caught every day, and could have been sold in very large quantities. Now, there is another point upon which I would like to turn upon, and which I would strongly recommend the Commission to advise the Government to prohibit, this herring fishing for oil. There has been such a thing as oil factories which have started up in various parts of Puget Sound, and other parts of British Columbia, and wherever these oil factories have run for any time, they have invariably destroyed the herring industry. They haul in herring in large seines by hundreds of tons, and the herrings are simply boiled or crushed—which ever process they undergo—and then the oil is taken out, and it has a great tendency to destroy that kind of fish. It is well known after seining, where herrings were very plentiful some years ago; they are very scarce now. It is the same over in Vancouver now, I believe, where an oil factory has been running for some time. I do not know as I have any further remarks to make—perhaps the Commission might like to ask me a few questions?

Q. We might ask you a few. You say you are experimenting as to whether it would be profitable to go into the deep-sea fisheries. At present you have got the ling

cod, the black cod, the halibut and the turbot. Now, how is ling distinguished from black cod? Do you know cod on the Atlantic?—A. No; they differ in some particulars. I have had Newfoundlanders fishing for me, and they tell me it cannot be dried—the flesh is too fat. In exposing it to the air, the fat works out to the fleshy side of the fish, and it turns yellow.

Q. And makes it rancid?—A. I suppose it does—the flesh turns yellow.

Q. Then ling cod here is the same as in Newfoundland?—A. No, they differ—the Atlantic cod has a sound, but these have not, their fins differ in some respects too.

Q. How about black cod—are they identical?—A. They are in many particulars—they have sounds.

Q. You say ling runs from 4 to 7 pounds? We noticed some cod in Victoria and New Westminster markets—they would range larger than that.—A. It would be the ling or black cod—the ling cod is a large fish—a very large fish.

Q. How big?—A. From 16 to 40 pounds.

Q. Then the black cod is a good eating fish?—A. Yes, it is a good saleable fish and where the local market cannot consume it, it can be cured and dried.

Q. How is your climate adapted for drying cod?—A. Oh, I think it is splendid.

Q. Then you think if a market was opened up the black cod, or your real cod as you term it, would become quite an article of commerce and would induce fishermen to come here?—A. Undoubtedly, but as I said before, there are but limited numbers of them.

Q. Would that be because few people were fishing for them or because they were few in numbers?—A. I think they are scarce in numbers.

Q. How far out have you fished for them?—A.—About 10 miles up.

Q. Are there any other persons who practice this mode of fishing?—A. I am not aware of them—Indians spear many of the ling cod, but I do not know if they get many of the right cod.

Q. Then you think a profitable industry for the province might be got up if there was an outlet for sale?—A. Yes, well right in Nanaimo it might be a difficult thing—for my experience would not warrant me to say it would be a success.

Q. Do you know if fish extend any length along the coast?—A. Oh yes, we have caught them 20 miles along the coast.

Q. Is the turbot like the turbot of the Atlantic coast?—A. Yes.

Q. And they would average?—A. About 5 pounds.

Q. A good well-meated fish?—A. Yes, splendid.

Q. What has been done with those caught?—A. They have been sold in the local market.

Q. Do you think them sufficiently numerous to make a commercial transaction if entered into fully?—A. Well, I have tried it for 3 months—it is a fish that swims in very deep water and the deepest that the men have fished is 150 fathoms.

Q. How do you catch them?—A. In trawls.

Q. And halibut you think not numerous?—A. Well, they may be according to the season of the year, because in Victora I find in summer many halibut, while in winter they are very scarce. It may be but some years—of course, I have only tried this winter.

Q. Have you noticed in the Victoria papers and papers south, that vast quantities have been brought down?—A. Yes, steam-boats bring them from up north.

Q. But your experience is you have caught them, but you have not gone into the business sufficiently to say you have caught them numerously?—A. No, I have not.

Q. But you think from experience up north they would be here?—A. Well, I think they would be in the summer months.

Q. What is the average size of halibut here?—A. Forty-five pounds.

Q. You have caught larger?—A. Yes, some about eighty and ninety.

Q. And what market have you for them?—A. Only the local market for the few we have caught. I may also mention, as far as my experience goes, I would say the most important here is the oil fishery; in the industry alone, there must be from 100 to 150 men employed in that industry now, taking the fish for their oil.

Q. Would that include the small shark?—A. Yes.

Q. And is it wholly converted into oil?—A. No; only the liver, and the body is thrown away as offal; undoubtedly the small audience here to-day is due to the fact that these dog-fish men are now away from the city engaged in their work, about 14 miles north of here.

Q. Is any attempt made to make fertilizer out of the refuse?—A. No.

Q. Does it answer farmers' purposes to use it?—A. Oh, yes, it is a good fertilizer, but my experience of fertilizer is that it does not answer for root crops.

Q. For cereals would it answer?—A. For hay, oats and wheat I have seen it answer very well.

Q. Then at present the dog-fish oil industry employs some 100 to 150 hands, and the liver only is used, and the rest thrown away?—A. Yes.

Q. Have you any knowledge of the effects of that offal thrown away, or is the business sufficiently large to form any opinion?—A. Fishermen are of opinion that it injures the fisheries by throwing it away; they think it should be saved from going in the water, but it is not done.

Q. What do they do with it then?—A. They generally leave it on the beach and dogs, bears, etc., eat it.

Q. But their general impression is that it is injurious and they don't throw it in, but leave it on shore?—A. Yes.

Q. You spoke of herrings caught for oil being detrimental. Do you mean that catching large quantities of herring and using them reduces their numbers?—A. It is reducing their numbers, for you see a large factory can use from 100 to 150 tons a day; there is very little oil in herring, and there must be tremendous quantities used to make it a paying business.

Q. Do they make anything else out of it, fertilizer or anything?—A. I don't know.

Q. Is it for oil only?—A. I have no experience in the business.

Q. Will the profit be from oil or fertilizer, or both?—A. Both, I should think.

Q. Is the oil sold in considerable quantities?—A. I don't know.

Q. Where does it go?—A. I don't know.

Q. You only know there are factories and they consume large quantities of herring, but you do not know anything of the profits?—A. No; there was a factory here started but it is closed down.

Q. Then you think the herrings are reduced by such large quantities being caught and the refuse thrown in?—A. Oh, I think the refuse is taken away.

Q. What was the result in Vancouver?—A. The herring has become very scarce; I have heard from fishermen that they cannot get even any bait.

Q. And are there herrings there?—A. They are very scarce; it has killed out the herring industry to a very large extent.

Q. You spoke of large seines—the manner in which they catch them—you know what a purse seine is?—Yes.

Q. Do they use purse seines?—A. Yes.

Q. How far do they go out to catch them?—A. Oh, sometimes the school is out a piece—wherever they see a school, they go out and put their seines around them. The quantity of herring they catch can be got from the fact, that a small steamer from Victoria, in one haul, got twenty-five tons of herrings.

Q. Do you know what was done with them?—A. They were taken on the steamboat and taken to Victoria.

Q. What did they with twenty-five tons of herring there?—A. I think they sold it to fishermen, who sold it for bait.

Q. What fish do they catch with that bait?—A. Halibut, dog-fish, etc.

Q. Are any salmon caught along this coast?—A. Some, in the spring of the year.

Q. Are they caught entering the rivers or out off on the coasts?—A. No; I think the principal part are taken off the lighthouse.

Q. Does the Nanaimo River run in her?—A. Yes, sir.

Q. Do salmon come up the river at all?—A. Well, some may. The only ones I have known to come up are hooked-nosed salmon.

Q. Are they spring salmon or sockeye?—A. No. The hook-nozed salmon are not saleable at all.

Q. What season when they come in?—A. In the fall.

Q. And you never see them this time of the year?—A. No.

Q. Not between this and the fall?—A. No.

Q. What do you mean by hook-nosed salmon?—A. Well, there is a hook on the upper jaw.

Q. Wholly on the upper jaw or on the lower also?—A. Wholly on the upper jaw, I think. I have never seen any on the lower jaw.

Q. Do you know sockeye salmon?—A. Yes.

Q. Any in this river?—A. Well, there were some caught out in the harbour, but I do not think in the river.

Q. Can salmon go up the river—are there any obstructions?—A. I don't think so. There may be.

Q. There are no canneries about here?—A. No.

Q. Do you know anything of trout coming up the streams?—A. Yes; there are considerable quantities of large trout in the lake.

Q. What do you call large trout?—A. About twenty or twenty-five pounds.

Q. Would they be sea trout?—A. Well, the only two kinds I have ever heard of are salmon trout and mountain trout.

Q. The salmon trout would run what size?—A. Three and a half to four pounds.

Q. Might they not be the same fish?—A. No; I think the flesh differs. The mountain trout is nicer eating.

By Mr. Armstrong:

Q. You don't know what was done with offal from the factory that was established here?—A. It only ran a few days, and was stopped for some reasons which I don't know. There were plenty of herring, but still the factory was stopped.

By Mr. Wilmot:

Q. Do you know if stopped by order of the town here as a nuisance, or anything of that kind?—A. No; I don't know.

Q. Thank you, Mr. Roos. Unless you have something else to suggest yourself, that will do?—A. No; I have nothing further.

FRAK VOZZAN, a native of Italy—10 years in British Columbia, formerly a fisherman on the Fraser River, but now a dog-fish fisherman, a resident of Nanaimo, was duly sworn.

By Mr. Wilmot:

Q. Well, what have you to say, sir?—A. Well, I was on the Fraser River before I came here—and then by that license business—when we could not get any more licenses I came here and fished for dog-fish.

Q. You are desirous of getting licenses to fish in the Fraser River?—A. And here too.

Q. Licenses in the Fraser River would be for salmon fishing and here for every kind of fish you could catch?—A. Yes, for dog-fish principally.

Q. You had license on the Fraser River?—A. Yes, I had licenses right along for six years.

Q. And did you make application for licenses lately?—A. Yes, but they would not give it to me—they gave to other people—new hands that came in, but not to all hands.

Q. Have you become a British subject by taking out the necessary papers?—A. Yes, sir.

Q. Then you are actually a British subject, as far as naturalization is concerned?—A. Yes, sir.

Q. How long since you took out papers?—A. About three years ago.

Q. And you got licenses on the Fraser River before you took out papers?—A. Yes, sir.

Q. And when you applied lately you were refused—why?—A. Well, they said they were so many licenses given out and they could not give any more.

Q. How many years did you fish on the Fraser?—A. Well, since 1882 I have fished in the Fraser River.

Q. What portion did you fish in?—A. Well, from Mr. Ewen's and all along the river—all about the sand heads and upwards.

Q. Did you ever keep count of the fish you caught?—Yes, sometimes I did.

Q. What average would you take in a season? when you fished for sockeye?—A. Well, we finished for spring salmon and sockeye—we didn't fish for————

Q. Well, in a good season—how many would you catch?—A. In a big season we might get 500 or 600 a day—in a poor run we might average 40 a day.

Q. What did you get for your fish—how much?—A. Well, generally 10 cents.

Q. Did you ever get more fish than you could dispose of?—A. No, I caught only those they would take from me.

Q. Did you ever catch more than they would take from you?—A. Well, sometimes I did, but I had to give them away for nothing, sometimes I salted them.

Q. Were you in the habit of throwing them away in the water?—A. No, I never did that.

Q. Were you aware others did that?—A. No, I never saw anybody throw them away—we gave them to the Indians to dry—the Indians will take them any time.

Q. Where did you live when there?—A. In a small sloop— eight or ten tons.

Q. Was offal thrown into the river then?—A. Yes, well they threw it under the canneries.

Q. Do you think the offal gave any injurious effects to the water, or fish, or health?—A. Well, I don't think so, because the heavy freshets of the river would carry it all away.

Q. You don't think it any harm to the river, fish, or health?—A. No, I don't think it does any harm.

Q. Have you been fishing here?—A. Yes, sir.

Q. Have you had any license?—A. Well, no one asked me for license.

Q. What kind of fish do you catch here?—A. Rock cod, ling, halibut, etc.

Q. The same as this gentleman stated before you?—Yes; sir.

Q. Do you find a market for all you catch?—A. Well, we get them away as well as we can.

Q. Do you catch any sockeye?—A. No; I hear some Indians got them out by the lighthouse, but I never got any.

Q. Any spring salmon?—A. Yes; in the winter.

Q. Where do you catch those spring salmon?—A. Well, in Departure Bay and other places. Whenever there is any herring around, they follow the herring.

Q. What average size would you catch here?—A. About 25 lbs.

Q. Do you find any spring salmon red and white meated or all one colour?—A. Yes; both red and white.

Q. Which is best?—A. Well, lots of people think the red, but I think the white is richest.

Q. Can you sell all you catch here?—A. Yes; in the winter. There is a great market here in the winter.

Q. But just to use themselves, or does anybody send them away anywhere else?—A. Well, I don't know. I don't think they send them away.

Q. Have you seen any spring salmon up the rivers?—A. Sometimes they go up a little piece, but in shallow water they cannot go far up.

Q. When do you see this?—A. In December.

Q. Do you know when they spawn; when they lay their eggs?—A. No; I don't know.

Q. Do you know where they go to spawn?—A. No; I don't know. Some say Nanaimo River, but I don't know.

Q. Do they go up in December?—A. Yes; in December, January, and those months.

Q. And you catch them out on these coasts in those months?—A. Yes, in March, April and May.

Q. What do you catch in May?—A. Well, when the herring leaves the coast the fishing is played out, except what you catch along the shore; ling cod, etc.

Q. How many fishermen are engaged here?—A. About 50 more or less.

Q. And they all pursue fishing the same as you do; the same kind of fish?—A. Yes: sir.

Q. What net do you use?—A. What for?

Q. For salmon?—A. Well, we catch salmon in the same sized mesh as we catch the dog-fish.

Q. What size would that be?—A. 6½ inches.

Q. Is it a floating net or what?—A. No; we sink it to the bottom. There is no tide there and it rests on the bottom.

Q. You don't fasten it with stakes or anything?—A. No.

Q. What is the height of tide here?—A. About 14 feet.

Q. A pretty good tide, is it not?—A. Yes; sir.

Q. And you fish with a net with lead lines taking the bottom and the cork lines on top?—A. No, sir; the lead lines are not always on the bottom.

Q. But the cork lines are on the surface?—A. Oh, yes; sir.

Q. Do you fish with seines?—A. Yes; sometimes.

Q. And what is the seine like?—A. A bag seine.

Q. And what length?—A. About 150 fathoms.

Q. And what size of mesh in that net?—A. In the bag it will be small mesh, 1½ inch, and as you get out to the edges it will be larger.

Q. What size in the bag?—A. About an inch mesh.

C. Extension measure or square?—A. Extension.

Q. Then inch mesh would make ½ inch square?—A. Yes, about ½ inch square—it makes over an inch when stretched out.

Q. What do you catch in this net?—A. Some rock cod, flounders—sometimes ling cod.

Q. What small fish do you get in it?—A. Little tommy cods.

Q. Any oulachons?—A. No sir.

Q. Any small trout?—A. Sometimes—very seldom.

Q. And young salmon?—A. Very seldom.

Q. But you do catch some now and them?—A. Very seldom.

Q. And the young salmon—what size would it be?—A. Only about two pounds.

Q. Do you ever catch any little salmon—6 or 8 inches long?—A. Oh no, they go through the mesh.

Q. How can they go through half inch mesh?—A. Well, sometimes they may get them, but it is very seldom we get so small as that.

Q. And when you take in the seine you take them all, rock cod, little salmon and all kinds? What do you do with little fish that are so small you cannot sell them?—A. Well, we always let them go, they are no use to us.

Q. How do you let them out?—A. Well, we just let down the net and they walk away themselves.

Q. Do all go away alive?—A. Oh yes, part of them.

Q. Do you ever haul your seine on shore and after picking out the large ones, leave the small ones there?—A. Well, there are some little ones that have no chance to get away and they remain there.

Q. Where do you haul these seines, in the harbour here?—A. Sometimes outside and sometimes in the harbour. Generally between here and Departure Bay.

Q. Do these other brother fishermen fish that way with seines?—A. No, I have not seen one.

Q. Only yourself fishing with a seine?—A. Well, there may be some from Cowichan Bay and if they went for bait they will fish with a seine. We don't fish all the time with a seine.

Q. But fishermen from Cowichan do the same as yourself?—A. Cowichan Gap, yes there are some do the same.

Q. And then your principal object in coming here is that you want license to fish here and in the Fraser River as well?—A. Yes sir.

Q. You want drift net license as well as seine?—A. Yes.

Q. But if restricted to only one which would you want?—A. I would rather have one to fish in Fraser River.

Q. That is salmon license with 6 inch mesh—5¾ rather?—A. Yes.

Q. Do you ever fish down at Cowichan?—A. No sir, I have fished down there six years ago, but not lately.

Q. Have you anything else you wish to bring before the Commission?—A. No sir.

Mr. Armstrong.—Thank you.

BARTHOLEMEW LACOSTE, a native of Italy, a British subject, 12 years living in British Columbia, a resident of Nanaimo, a fisherman, was duly sworn.

By Mr. Wilmot:

Q. Well sir, what do you want?—A. I want a license.

Q. Have you ever applied for them?—A. Yes, I fished in 1882, in the Fraser River, and then came up here.

Q. Have you ever had licenses on the Fraser River?—A. I fished with the previous witness, Frank Vozzan,

Q. The same license did you both?—A. Yes, we fished together.

Q. Do you endorse what he says as to fishing on Fraser River, the quantity of fish caught, etc.?—A. Yes.

Q. Do you use a seine here to?—A. Yes, sometimes.

Q. And do you catch fish of the same kind?—A. Yes, the same kind.

Q. With some meshes, bag-net?—A. Yes, I fished with the last witness; we are partners.

Q. And you corroborate what he says?—A. Yes.

Q. And you want a license?—A. Yes, I want a license, that is all; I want to fish for salmon in Fraser River, and go there in the fishing season and fish.

Mr. Wilmot.—Well, sir, we have your statement down, unless you have something further to say, that will do.

D. S. McDONALD, a native of Scotland, 16 years in British Columbia, a merchant, and resident of Nanaimo, was duly sworn.

By Mr. Wilmot:

Q. Now, sir, what do you desire to say?—A. Well, there is one thing I observed last summer, the stream that goes out from off side of this harbour; there are three lakes connected with it; Fishhawk Lake, Thunder Lake and Troboy Lake; the stream passes through from the upper lake right straight down through, and there is a little outlet goes into the second lake, and there is a dam which stops fish.

Q. Which is farthest up?—A. Fishhawk Lake, the next is Thunder Lake, and the last is Troboy Lake. I have a little diagram here from which you will understand the positions (showing Chairman diagram).

Q. And how far is the dam from the tide water?—A. Well, the tide backs up to the dam.

Q. Well, what do you want to say about this?—A. My object I will explain to you. I am very fond of the fishing rod; 10 or 12 years ago, I used to go to either of these lakes and catch trout, but since the dam has been across you cannot catch one of them.

Q. What is the height of this dam?—A. Well, I cannot say; it stops the tide from going up; there is a flood-gate on it, and the water comes and shuts the gate.

Q. And any fish going up would be stopped or fish coming down?—A. I think the water is so low when the tide goes out that fish cannot come out in that particular place.

Q. But any fish coming down and the flood gate open; fish could come down could they not?—A. Yes.

Q. What size is the stream from Troboy Lake?—A. Well, in summer time about 15 or 20 feet across.

Q. And of what depth? What kind of bottom?—A. Gravelly bottom.

Q. Is it pure clear water as a rule, except in freshets?—A. Well, from Troboy Lake it has muddy streams flowing into it, etc., but from the dam up it is clear water for say two miles.

Q. What fish do you catch there?—A. Trout.

Q. What do you mean by trout?—A. The salmon trout; I don't think there is any mountain trout here.

Q. You have been in the eastern country?—A. Yes; I have been all through Nova Scotia, and the trout we catch there has a small red spot and we never catch them here.

Q. Then the speckled trout are not here?—A. No, I think they are young salmon trout. There are large salmon trout caught, six or seven pounds, up at the falls, and they resemble these very much.

Q. The only thing is, I find there is a considerable difference of opinion here on this matter: now, what is your description of salmon trout?—A. Well, the scales of parr is larger.

Q. What do you then call "parr?"—A. A young salmon about six inches long.

Q. With a band along the sides and spots?—A. No; those I call the trout.

Q. But they are young salmon in a different stage. Well, these ones you get in the lakes?—A. I call them salmon trout. They are marked across the body and have no specs on them.

Q. Are you prepared to say they were not young salmon?—A. To the best of my belief they are young salmon.

Q. And would be produced by salmon going up to those lakes and going into smaller streams to breed?—A. Yes.

Q. And the killing of these—do you consider it objectionable as against allowing them to come down and become full-grown?—A. Well, that size—you never take them out with hook and line.

Q. But as they get larger you would?—A. Yes; in a different stage.

Q. But don't you think it injurious to kill those salmon?—A. Yes; but it is more injurious to spoil the stream and not let them go up at all.

Q. Yes, but if you kill them off, you will have none at all?—A. Well, but that is looking very far ahead. Probably the plovers would get them, anyway.

Q. Then you say the dam should be removed to let salmon pass up and breed?—A. Yes.

Q. And should I say to let you catch them with a fly?—A. Well, they have got scarce since the dam has been there.

Q. But I think it a bad argument for you to say that the dam should be removed to save the fish, so you could kill them with a fly?—A. Perhaps it is a selfish motive.

Q. What is the dam up here for? Any motive power or manufactory?—A. No—to prevent the land being flooded above.

Q. Is the land occupied by farmers above this gate?—A. I cannot tell you.

Q. Are there any residents there?—A. Oh, yes; on the high land there is. I cannot say how many acres would be flooded.

Q. Then the stoppage of the water benefits how many?—A. Only one farmer, and it prevents fish from going up to breed.

Q. Is this dam on his own land?—A. I cannot tell you. To the best of my knowledge it is, but I don't know.

Q. Well, it does not matter.—No man has the right to stop the passage of fish up stream.

By Mr. Armstrong:

Q. He effectually stops them then?—A. Yes.

Q. And you desire to see the law made, if there is none now, to stop this?—A. Yes.

(Voice from audience.)—Three years ago there was a petition got up to stop this.

By Mr. Armstrong :

Q. Well, I may say it is against the law now to do this. Any of you can go to a magistrate here and have any one fined who does this.—A. Well, I wanted to know if it was right that this man should do this. If it is wrong, why it is wrong to me and the balance of the community.

Q. There is no doubt it is wrong, sir, as far as the law is concerned, but I, of course, cannot decide such matters or give you advice on the matter. However, your statement is re orded, and it will appear before the authorities, and will be taken up with other matters in connection with the fisheries of British Columbia.

P. S. CURRY, a native of England, 22 years in British Columbia—a resident of Nanaimo, and describing himself as an Indian trader, was duly sworn.

By Mr. Wilmot :

Q. Have you anything to say relative to this stoppage at the dam?—A. Well, I have nothing much to say, but every one is of my opinion, that the dam was stopping the fish from going up. There used to be good fishing some years ago, but now there is no trout at all—I know three years ago there was a petition got up among the settlers to have this dam taken down.

Q. To whom did the petition go to?—A. I don't know—or whether it was ever sent.

Q. Did you sign it?—A. No—I was not a settler.

Q. Who is your fishery officer here?—A. We have none—at the time the petition was got up it was Charles York.

Q. Is not Mr. Malpas here?—A. Yes.

Q. And you don't know whether the petition was sent to York or not?—A. I don't know—but I know every one is of the same opinion that the dam is injurious to the lakes.

Q. Is it your impression too?—A. Yes, sir.

Q. What is the dam made of—earth or wood?—A. Both, I think—I have seen it once.

Q. A log dam with earth thrown upon it?—A. Yes,

Q. And this swing gate in the middle?—A. Yes, it is only for preventing the water from going on some hay lands.

Q. And what space would the gate leave?—A. About three feet—somewhere near that.

Q. Then water would rush through very rapidly when the tide was coming in and would shut the gate quickly?—A. Yes, it is simply for keeping the water from going on the land.

Q. Then you have heard that gentleman before you speak with regard to the lakes—do you corroborate that?—A. All except I differ with him as regards the trout—he calls them salmon—I call them fresh water trout.

Q. What is it marked like?—A. Different marks on them—some spotted and streaked.

Q. You are not prepared to say they are young salmon?—A. I don't think them young salmon.

Q. Have you sufficient experience to say whether they are young salmon or trout?—A. I never fished for salmon—they were all trout that came to my net. (Laugh).

Q. And whoever sells them—they would say they were young salmon, I suppose? (Laughter.) I may say it is very difficult for any one to tell between young salmon and trout but they can be told. And you would catch different coloured fish from the different lakes—I think it is on account of the bottom—in a muddy bottomed lake, you

will catch them different to the gravelly bottom. Have you anything to say as to the big salmon?—A. No, I don't know anything about them, except I have seen them going up streams.

Q. Oh, you have in these streams spoken of?—A. Yes.

Q. What like—about what size?—A. Oh, weighing about twenty or twenty-five pounds.

Q. Yes, the spring salmon—when do you see them going up?—A. In the fall—after the rains have made the streams bigger.

Q. Well, that is the strongest evidence you could give that these little fish were salmon, because the big fish go up in the fall to deposit their eggs and then these are the little fish that come afterwards. (Laughter.)

Mr. CURRY.—Is there not a proper close season for trout fishing here?

Mr. WILMOT.—Yes; sir.

WITNESS.—Would you tell me when it closes? Some say one thing is the law and some another?

Mr. WILMOT.—Well, the law is at present that no one shall kill trout from 15th October to 15th March.

Mr. CURRY.—Is that for the angler?

Mr. WILMOT.—Oh, well it does not matter.

WITNESS.—Well, many have different opinions. They think if fishing with a fly, they can fish any time.

Mr. WILMOT.—Oh, no; you see there is a certain time when the trout breed, too; and the angler would destroy them, too; it does not matter, angler, spearsman, net fisherman, or Indian, all are equally prohibited during the close time.

Mr. ARMSTRONG (to Witness).—Thank you, sir.

EDWARD QUESNELLE, a native of England, 26 years in British Columbia, a resident of Nanaimo, and by occupation a butcher, was duly sworn.

By Mr. Wilmot:

Q. What have you to say?—A. It was just in regard to the evidence about fish in Fish-Hawk Lake. I used to log near there a few years ago. Before the dam was put across we used to get salmon in plenty; even in the ditches, we got two kinds.

By Mr. Armstrong:

Q. What is the name of this stream?—A. It has no name; it is a small outlet from these two lakes.

By Mr. Wilmot:

Q. How far from here?—A. Oh, about two or three miles.

Q. And Fish-Hawk Lake?—A. About eight miles.

Q. And the whole extent of stream from Fish-Hawk Lake?—A. From Fish-Hawk Lake down to salt water at the dam, 5 miles.

Q. And how long is Fish-Hawk Lake?—A. The longest part, 3 miles and average width $\frac{3}{4}$ of a mile.

Q. Are there any small streams running into Fish-Hawk Lake?—A. Yes; several of them. What I wanted to state was, that before the dam was placed there the salmon went up regularly every year about the month of September. It varied sometimes, but after the dam was put across, the salmon stopped coming up.

Q. You have seen them caught up there in years gone by?—A. Oh, yes.

Q. And at any time?—A. Yes.

Q. And the size of the larger salmon?—A. 15, 20 and 25 lbs.; and the smaller ones 6 to 8 or 10 lbs.

Q. Were smaller ones numerous?—A. No; the larger ones were the most.

Q. What comparative difference; would the larger ones be double the smaller ones?—A. Oh, yes; there were only a few small ones, and after they went up the ditches would be covered with spawn.

Q. Did the smaller ones spawn?—A. Well, I don't know. I don't think so.

Q. Were the smaller ones same as the big ones, only smaller?—A. No; they did not look the same.

Q. Do you think they are the young of the large? Did you ever hear them called grilse?—A. No; they seemed to be somewhat red.

Q. Yes; that would be the sockeye salmon, and would the spawning places be gravelly bottom?—A. Yes.

Q. How do you know they were spawning there?—A. Well, we knew because we used to see the eggs there in the ditches.

Q. Would you see places where the gravel would be removed by the fish?—A. I never took that much notice. We used to see eggs sometimes in piles and sometimes scattered out.

Q. And they used to be caught pretty numerously?—A. Yes; you could catch as many as you had a mind to—you could take them out with a pitchfork.

By Mr. Armstrong:

Q. But how did you catch them as a rule?—A. Well, we used to get in the ditch and take them out.

Q. How many would you catch?—A. Oh, we only caught a few for our own use.

Q. But you could have caught many of them?—A. Oh, yes; as many as we had a mind to.

Q. And you think this dam has prevented fish from going up?—A. Yes.

Q. And the fish have become exterminated?—A. Yes.

Q. Have you any other rivers here similarly situated except the dam?—A. Oh yes; the Nanaimo River, and the Chase River.

Q. Do they still go up these rivers?—A. Yes; the Nanaimo River especially.

Q. Would they appear in about the same proportions as between the two kinds?—A. Yes, I think so.

Q. And many salmon go up the Nanaimo now?—A. Yes, at the same time of year as they used to in the other.

Q. And they kill young, in numbers while going up?—A. Principally by the Indians.

Q. And are many caught in the estuaries at the sea?—A. They don't catch them like they do on the Fraser River, but they could catch them if they wanted to.

Q. Are there any lakes on the Nanaimo River?—A. Yes; small ones.

Q. And anything to prevent fish going up there?—A. No.

Q. Do you see many dead fish any time in the Nanaimo River?—Yes; a great many.

Q. Do you think any return to the sea after going up to spawn?—A. Yes; a great many get killed and die but many return.

Q. Do you know this to be the case in this other stream?—A. Yes; before the dam was put in, but we found few dead ones there—it was a short stream and easier to get up.

Q. How long is the Nanaimo River up to the lakes?—A. About 20 miles to the first lakes, and 20 beyond that to the other lakes.

Q. Do you know some of them return from the upper lakes?—A. I don't know.

Q. Have you any oyster beds around here?—A. None nearer than Oyster Bay—there is one up north at Nanoose Bay.

Q. Are they fished very much?—A. I don't think any one fishes there except Indians—in Oyster Bay two or three whitemen fish there.

By Mr. Wilmot:

Q. Have you any experience in fishing for halibut?—A. Not for halibut—I have for cod and salmon.

Q. What is the value of the big salmon in the market here?—A. $1 a-piece.

Q. And the small salmon?—A. Down to ten cents or a "bit."

Q. Then you conclude in your mind that this dam has a tendency to destroy that particular family of fish that belonged to Fish-Hawk Lake?—A. Yes.

Q. And that Nanaimo River is still frequented by considerable numbers of spring salmon and the smaller fish?—A. Yes, sir.

By Mr. Armstrong:

Q. Do you know anything about the sea fishing here?—A. No.

Q. It has been stated you know, that they use these small mesh nets and haul up large quantities of these small fish on the beach after taking out those for market, and leave the smaller ones to rot on the beach?—A. Yes.

By Mr. Wilmot:

Q. The object of my colleague and myself in asking these questions about the seines is, that it is feared that many young salmon are caught and thus ruthlessly destroyed.—A. Oh, they don't catch many young salmon outside.

Q. Do you deal in fish at all?—A. Only for what I require for my own use.

Q. Is there a fish market here?—A. Yes.

Q. What fish are generally brought in?—A. Codfish, salmon, and all kinds.

Q. Do you know anything about the oyster fishery at all?—No, sir.

Mr. William Roos, who had previously given evidence, here stated:—

"It is absolutely necessary to use small meshed seines to catch the fish they require. They would catch none unless allowed to use the small mesh, as herring ofter were very small and go through very fine mesh. In a whole season I have caught only three or four young salmon, and it is really necessary to have half-inch mesh in the bunt of the seine."

The Commission adjourned at 5.20 p.m., to meet again in the same place at 10 a.m., on 10th March.

NANAIMO, 10th March, 1892.

Morning Session.

The Commission was convened at 10 a.m.

Present: Mr. S. Wilmot, in the Chair; Mr. Sheriff Armstrong, and Mr. Secretary Winter.

Mr. WILLIAM GREEN, a native of England, five years in British Columbia, resident of Nanaimo, describing himself as a trader, was duly sworn.

By Mr. Wilmot:

Q. Well, what would you like to put before the Commission?—A. Well, about five years ago I was residing on Naas River.

Q. Oh, yes; the Naas River—very well, sir?—A. Well, up where the Indians are—some distance up river from where the fishermen are allowed to throw out their nets, there is any quantity of fish, both spring salmon, silver salmon, and cohoes. The cohoes only run late in the fall—the Indians put out seines in the river and in the small rivers that flow into it.

Q. It is Naas River you are speaking of more particularly?—A. Yes; there are three canneries there now. Fish is very scarce, and fifty or eighty miles up the Indians put seines across the streams and catch any quantity of fish and destroy large numbers of them.

Q. Then this seine fishing by Indians is beyond where the ordinary drift nets are used?—A. Yes, sir.

Q. You have been on the river?—A. Oh, yes.

Q. You know where the boundary for fishing there is?—A. Yes.

Q. About sixteen or twenty miles beyond the British Columbia cannery?—A. Yes.

Q. And this fishing is beyond that?—A. Yes; the Indians catch them to extremes—more than they do for food.

Q. How far up from the British Columbia cannery; have you ever been on the lakes on Naas River?—A. Oh, yes; the lakes are up 40 or 50 miles from the river, and spring salmon run from the lakes into the river.

Q. Yes; and small tributaries as well running into the lake?—A. Yes.

Q. And is fishing carried on at the lake?—A. No; right in the rivers and at mouths of rivers running in.

Q. And is it late; do the fish come up to spawn?—A. Yes.

Q. And they are fished by the Indians; drift nets or seines?—A. They just put them across the streams and haul them in in hundreds at a time; I would say that after that I resided at the Forks of the Skeena.

Q. Well, before we leave the Naas River—so the Indians catch these fish by hauling their seines across the stream?—A. Yes.

Q. And do they catch more than they want for individual use?—A. Yes.

Q. What do they do with them?—A. Well, when they catch them they clean them and dry them for their own use.

Q. Do they take any down to the canneries?—A. No; only for their own use. They catch perhaps 1,000 in a day; they clean as many as they can and the rest of course they lay there and rot.

Q. And would they be mostly silver salmon or sockeye?—A. Both the silver and the sockeye.

Q. And which do the Indians prefer?—A. The sockeye.

Q. And do they take the spring salmon?—A. Yes; they take them down to the canneries.

Q. And not sockeyes to the canneries?—A. No; not to my knowledge.

Q. They send spring salmon down to the canneries, but sockeye they keep for their own use?—A. Yes.

Q. What number of streams you think run into Naas River above the limit for fishing and the lake?—A. There are numerous streams.

Q. And Indians are engaged fishing in them?—A. Well, there are three streams about 60 miles above the cannery, and it is there the Indians catch the fish.

Q. Can you form an estimate of the average weight and size of these spring salmon they catch?—A. About 35 pounds.

Q. How large have you seen them; the largest for instance?—A. The largest I have seen I think weighed 78 pounds.

Q. Indeed? An enormous fish. Would these fish be white-meated or red?—A. Red.

Q. Have you known of any being white-meated?—A. Yes.

Q. What proportion?—A. About equal.

Q. Which is considered the best?—A. Well, the cannerymen say they can both kinds and they say they find a better market for white than red.

Q. Have you ever travelled up any of these small streams yourself? Any distance from the main river?—A. Well, I have not followed them any distance from the main river right along, but I have gone up Naas River and then gone over the mountains for about 180 miles.

Q. Would these streams be large?—A. Yes; a pretty good size.

Q. And all frequented by salmon?—A. Yes; salmon all up the streams.

Q. May I ask your calling up there?—A. Well, at the time I walked over I was trading at the Skeena.

Q. Do these last remarks you made apply to Naas or Skeena?—A. Well, these streams from the lakes flow into Naas River.

Q. And now you are referring to the Skeena?—A. Yes.

Q. Well, what about the Skeena?—A. Well, I was residing on the Forks of the Skeena trading among the Indians and some distance from the Forks there is a river called Kiashbiash.

Q. Is that near Babine Lake?—A. No, I think Babine Lake is about 50 miles beyond.

Q. And you are now speaking of the limit between Babine Lake and tidal water?—A. Yes. Well, you see the Babine Lake is between the Skeena River and Ablogate River, and I am speaking of below this. At Kiashbiash River there is a large Indian

village there, and all the Indians put out traps—I have seen fifty or sixty traps there. They have piles across the river and they just let a basket down and they catch any quantity of fish.

Q. Would these be spring salmon?—A. No, the silver salmon or sockeye.

Q. Not the cohoes?—A. No.

Q. Well?—A. Well, you see having all these traps across the river and catching any quantity of fish there, it makes more limited fish down on the river and where the cannerymen are complaining of scarcity of fish.

Q. Do Indians catch fish in these traps for the canneries?—A. No, just for their own use.

Q. What number of Indians are there?—A. There is a tribe of between 300 and 400 and about forty or fifty are left to catch fish during the summer and the rest go down to fish for the canneries.

Q. Can you form any estimate of what these forty or fifty Indians would catch during the season?—A. No, I could not say, but of course it is a great many.

Q. And all are dried?—A. Yes.

Q. And those are principally silver salmon or sockeye?—A. Yes.

Q. Then there are lots caught with seine below the town of Hazelton? Are these traps above or below Hazelton?—A. About seven miles above—on the Kiashbiash River.

Q. The Indians would want to catch them for their own food?—A. Yes,

Q. Are salmon less plenty in the Skeena than formerly?—A. Well, I could not say—only what cannerymen say—and fish do not seem to be running as plentifully as they used to do.

Q. Would you say that was because canneries catch so many or because of the great catch by the Indians?—A. Well, I think if there was some one there to see these Indian let many of them go it would be better.

Q. And do they catch more than they really want—they seldom do so?—A. Oh, yes; they catch more than they want—last summer on the Kiashbiash River I saw any quantity of fish lying dead—the Indians get them and take the roe out of them and leave the bodies lying there.

Q. And that would be well on in the spawning season?—A. Yes.

Q. And they dry the roe for their own use?—A. Yes, they dry the roe.

Q. Do you know anything about the young salmon—their natural history, etc.?—A. No, but I might say there are quite a number of lakes around Hazelton and they are full of fish.

Q. Do you know if these Indians catch the young fish by traps or otherwise?—A. No, but they go out in winter and cut holes through the ice and bring them into Hazelton.

Q. What size would they be?—A. I have seen baskets weighing two and three pounds—the average would be about two and half.

Q. And could you say they were salmon?—A. No, I could not say so.

Q. It is not likely they would be salmon, because they would be either very little or would be bigger?—A. I may say last summer I was on the river and found an Indian village and traps across and great quantities of them lying around.

Q. And that was the system, you think, of the Indians from time immemorial before the canneries could be established?—A. Yes.

Q. And now do you think the habit of Indians catching fish from time immemorial would effect the run of fish in the river? They always get plenty of food?—A. Oh, yes.

Q. And then this reduction must be put to the canners, would it not?—A. Well, of course, there have been more canneries gone up lately.

Q. Yes. I think there are eight canneries on mouth of the Skeena?—A. Yes.

Q. And these eight canneries would take a large amount of fish, and I should think it would be that they would effect the fish more than the quantity caught by the Indians—don't you think so?—A. Yes; I would think so.

Q. Because you see the Indians have gone on from time to time, and caught their fish from the main supply, but now the supply is otherwise reduced?—A. Yes.

Q. And the Indians do not take the fish caught up river down to the canneries for sale?—A. No; it is for their own use.

Q. Do Indians, fishing at the canneries, ever take home any salted fish for their domestic use in winter?—A. Not to my knowledge.

Q. Because it is stated that the white salmon are given to the Indians for their use—now, could they carry these up to their villages?—A. No, sir. I know last summer, up there, we would go out and the Indians would just put their pole down anywhere and get a salmon.

Q. Then you don't think it probable that the Indians would take them up for their own use?—A. No; though they might use them while at the cannery.

Q. Do the Indians prefer the white salmon?—A. I am sure I could not say.

Q. I suppose you know the white salmon is not quite so marketable as the red?—A. Yes; but we heard last summer from cannerymen they were going to can the white salmon because it is just as good as the red.

Q. You are speaking of spring salmon?—A. Yes.

Q. And they catch them up to seventy and eighty pounds?—A. Yes.

Q. An enormous fish?—A. Yes. Even in winter I know the Indians go out and haul up very big fish.

Q. They would then be very low—they would not be good, I should think?—A. Yes; they are very good.

Q. Are there many white people at Hazelton?—A. Yes; the Hudson Bay Company have quite a store and Mr. Cunningham.

Q. Do the Hudson Bay Company catch many fish there?—A. Not to my knowledge.

Q. The Indians are supposed to catch their own fish?—A. Yes.

By Mr. Armstrong:

Q. You say, Mr. Green, the fish are considerably reduced in Naas River—are they reduced to the same extent in the Skeena?—No. Of course, there are three canneries on Naas River, but the Naas is not so large as the Skeena.

Q. And you think fish are not reduced as much on the Skeena as on the Naas?—A. No.

By Mr. Wilmot:

Q. Yes. You see there are three canneries on Naas, and eight on the Skeena, but the Naas is a much smaller river—would it be half as large as the Skeena?—A. No; not half as large.

Q. I see from a description I have of it, a short distance above the "Windsor" cannery it is three-quarters of a mile wide, and the Naas River at the boundary is only about 1,200 feet wide. Does the Indian fish on Sunday for their own use or do they keep the Sunday?—A. They do on the Naas, but on the Skeena they do not.

Q. But in fishing for the canneries do they care about fishing on Sunday?—A. No, they don't.

Q. There are missionaries there?—A. Yes.

Q. And they are led pretty much by the missionaries are they?—A. Yes.

Q. Do cannerymen fish on Sunday at all?—A. No, I don't think so—the Sunday is kept.

Q. You are the only person we have found who has actually travelled over the ground there, and it is very good information which you have given us. Do you know anything of sea fishing?—A. No sir.

Q. The Indians are not engaged in that—they are always waiting for the salmon? A. Yes; they wait for the salmon.

Q. Are there missionaries up at the mouth of the river at Hazleton?—A. No, not at Hazelton.

Q. Do Indians stay at the cannery in winter or go up river?—A. There is an Indian village at Mr. Cunningham's cannery, but most of them go to Fort Simpson.

Q. Where is Fort Simpson—how far from the "Windsor" cannery?—A. About fifty miles from Skeena River—they have to go across the gulf to reach it.

Q. I don't think we can ask you anything else—we have got very good information from you and are much obliged to you.

No further evidence being forthcoming the Commission adjourned at 11.20 a.m. to meet again at 3 o'clock p.m., at the same place.

NANAIMO, 10th March, 1892.

Afternoon Session.

The Commission assembled at the City Hall, at 3.45 p.m.

Present :—Mr. S. Wilmot in the Chair; Mr. Sheriff Armstrong, and Mr. Secretary Winter.

No evidence being forthcoming, the Chairman, at 4.25 p.m., declared the Commission adjourned, to meet again at Vancouver, at 10 a.m., on Saturday, 12th March, 1892.

VANCOUVER, B.C., March 12th, 1892.

Morning Session.

The Commission was convened in the Court House at 10 a.m.

Present :—Mr. S. Wilmot, in the Chair; Hon. D. W. Higgins, Mr. Sheriff Armstrong and Mr. Secretary Winter.

The Chairman (after calling the meeting to order, the room being well filled by the public) in declaring this Commission open, said to his brother colleagues and others, I may mention in a hurried manner the object of the Commission so no misunderstanding may arise about it. The object of the Commission is to get all the information possible about the fish and fisheries of British Columbia. Disputes for a long time have existed with canners and others with regard to the Fraser River fisheries particularly, and this has culminated in having a Commission appointed. Mr. Higgins and Mr. Armstrong were appointed on behalf of the province, and I was appointed to sit with them. We have proceeded with business so far with some 8 or 10 days at New Westminster where some 70 witnesses were examined, both canners and fishermen. We then proceeded to Victoria and got information from canners and others on northern rivers, etc., we then adjourned to Nanaimo. Before leaving Victoria, we passed a resolution that we would come to Vancouver—our object in coming here was more particularly with the view of obtaining information about the deep-sea fisheries, which I understand are here entered into largely. So far, our meetings have been harmonious, particularly at New Westminster and Nanaimo—a little jarring took place at Victoria, and I hope we will get along here harmoniously. We expect to get through here this afternoon or evening, and it is important we get through as soon as possible, as many important questions are pending our decision. We will proceed to take evidence from any one here who chooses to give it. We will particularly like to hear about the halibut and deep sea fisheries and I will now declare this Commission open. (To the Commissioners.) Would it not be better to arrange about our adjournment from here so the public can know of our movements?

Mr. HIGGINS :—Oh, we can sit to-day, and this afternoon, if necessary, can state our further movements.

Mr. WILMOT :—Well, then, will it be understood that we will sit here to-day and adjourn, and when we adjourn from here we will adjourn to New Westminster, with the view of going down the river to inspect it as well as we can at this season of the year. The Commission will endeavour to get some sort of craft and go down and inspect the river on Monday.

Mr. HIGGINS :—Yes, Monday will be the last day I can be here.

Mr. ARMSTRONG :—Yes, that will do.

Mr. R. V. WINCH, a native of Canada, 6 years in British Columbia, a fish merchant, and resident in Vancouver, was duly sworn.

By Mr. Wilmot :

Q. Well, now sir, have you anything to represent to this Commission with regard to the salmon fisheries or other fisheries of British Columbia?—A. Well, with regard to the salmon fishery I only wish to state, with regard to licenses we are not properly supplied with licenses in this city for the fresh fish market—there is a kind of monopoly now as matters stand.

Mr. WILMOT :—Perhaps it would be just as well if Mr. Inspector McNabb would state the directions he has just received from Ottawa, on the subject of licenses.

Mr. MCNABB handed in a letter, dated 3rd March, 1892, which he had recently received from the department at Ottawa, authorizing him to issue 100 interim licenses, and which was read by the Chairman.

Mr. WILMOT :—As you were speaking about licenses to supply the local trade for the time being, I may state for the information of yourself and others present that during the sittings of the board in New Westminster many enquiries were made in regard to interim licenses and a suggestion was sent to the minister that interim licenses might be issued in the meantime to those who were fishing for local trade until something definite was decided in regard to standing regulations or any altered ones, and that a fee of $10 should be paid for these licenses and that this fee would go to account for any further license issued afterwards. This is simply to permit the local traders and fishermen to go on with their work now. This does not, I understand, apply to canners who do not fish until later in June or July—I merely state this so all may understand it.

Mr. WINCH :—With regard to the numbers, sir.

By Mr. Wilmot :

Q. The inference to be drawn is that each *bonâ fide* British subject and fisherman should be entitled to one license, and I presume from the wording of the correspondence on the subject, that freezers and exporters would be entitled to two licenses, so if they want more fish than those two would supply them with, they can buy from regular fishermen—it is put forth, as explained, in order to allow fishermen to go on with their work for local trade and export trade in spring salmon?—A. Well, I think that would cover my ground—you see we have to depend upon the fish dealers in New Westminster to supply the whole trade of the city as well as far east as Winnipeg, and we were entirely in their hands. You see the first of the fish that are caught will certainly be shipped out of the country, and that leaves us with very high prices, and then to take such fish as will not be required for shipment—that is you may say the culled fish, and we can take it or leave it.

Q. And then the best fish are shipped out of the country, and the worst left for local market?—A. Yes, always.

By Mr. Higgins :

Q. Were there no licenses here at all?—A. None; there has never been any.

Q. What was the reason?—A. Well, the reason was, as far as I could find out from Mr. Mowat, if one license was issued he would have to issue licenses to every fresh fish man in the city and that would use up all the licenses.

By Mr. Wilmot :

Q. And do I understand you never had one license?—A. Not one—we never had one license.

Mr. WILMOT :—Did you understand how they stood in Victoria?

Mr. HIGGINS :—Well, I thought there was one.

Mr. WILMOT :—Mr. Inspector McNabb, can you give us information—has any licenses been issued in Victoria and Vancouver?

Mr. MCNABB.—There were several individual fishermen from Vancouver who had licenses to fish on the Fraser River, but they sold their fish to canners on the Fraser River—they fished on the Fraser River, and I presume had licenses.

Mr. WINCH.—Angus McInnes moved over here—I know one had a saloon here—I was selling about four tons of fresh fish a week and I could not get any.

By Mr. Wilmot :

Q. It seems very strange that in a large city like this there should be no licenses?—A. It is very serious indeed.

Q. One of the objects of this Commission is to investigate such matters, and you see the recommendation has been made that interim licenses be issued?—A. Well, I had the contract for supplying the Canadian Pacific Railway and the steamers, and they require a large supply before they sail, but we had difficulty in getting fish.

By Mr. Higgins:

Q. I think there is no difference of opinion among the Commissioners about the senseless way in which these licenses have been managed, when I see good British subjects coming up in Westminster and stating they could not get a license and yet others got them and sold them?—A. Well, I have three boats tied up, and I can tell you I intended to work them whether I was fined or not.

By Mr. Wilmot:

Q. Well, but Mr. Winch let me tell you that these interim licenses will not make any difference with any licenses that may come out afterwards, but to make provision for this fish trade, etc., these licenses are issued, and it will not result that if a man has one now he will not necessarily be entitled to another?—A. Will freezers be allowed to increase their number?

Q. Well, that is a matter to be considered agaln?—A. You see—here I deal in fish and sell it out in pounds. I handle more fresh fish than any man in British Columbia—that is actually in connection with the retail trade in the cities of Victoria, Vancouver and Westminster, I will handle more fish than any other man. I employ seven men here, and they are all married men, and from what I read in the papers, I think I employ as many as the canneries in that regard—then I employ men in the deep-sea fisheries too.

Q. What markets do you sell your deep sea fish in?—A. Well, I have not sold much fresh salmon except in the immediate city—then we have shipped as far east as Winnipeg and to small towns along the line, but it has been so difficult to get fish that we could not send much to those places.

Q. But you never had any license before?—A. I never had any.

Q. Well, without putting it too low or correspondingly too high, how many licenses would suit your trade?—A. Five would suit for the city trade to give me sufficient quantity of fish for our own use in the city.

Q. Would your own men fish those five licenses?—A. Yes, sir.

Q. Because a system has prevailed that persons getting licenses would farm them out, and I think my brother Commissioners are dead against that altogether?

Mr. Higgins.—Oh, yes.

Mr. Winch.—Well, any time I have not my boats at Westminster and the fish do not come in to supply the wants of the people of British Columbia, those licenses can be taken away from me.

Mr. Higgins.—That is fair—that is right.

By Mr. Wilmot:

Q. Yes, that is fair, but the system has prevailed and licenses given to parties have got into the canneries' hands and have been farmed out?—A. I don't know anything about the canners, but I wish to get enough licenses to supply my trade.

Q. The whole object of the Commission is to investigate these matters?—A. Well, I started in with the city—I came in just after the fire, and it has been a very difficult thing to get fish to supply the city—you see in the season every boat is turned into the canneries and we cannot get fish for our trade.

Q. Is it spring salmon or sockeye?—A. Spring salmon, people want fresh fish here in season, and as regards the hatchery, why should you hatch only sockeye fish?

Q. Well, when the hatchery was first started it was intended to only hatch the spring salmon or "quinnat," but it would appear that the "quinnat" was not the commercial fish of the Fraser River and the department took the information given them by the canners and others, that the only commercial fish here was the sockeye, and so the department took the sockeye for breeding purposes?—A. Well, I don't use it in my fresh fish trade here.

By Mr. Higgins:

Q. What do you think of the "quinnat"?—A. Well, we would want the spring salmon for our trade, and you see that is why we come in contact with the others.

Q. Is it a fine fish?—A. Oh yes, it is a fine fish.

By Mr. Wilmot:

Q. Are you from the eastern provinces?—A. I am from Ontario—Cobourg.

Q. Then you have no experience of the salmon in the eastern provinces?—A. No, sir, you say licenses should go to only British subjects?

Well, you see there are men working here—seining for black cod-fish—and I take all their fish—and then two other men—I take all their fish, besides other men I have constant in my employ, and then I will have to have other men in Westminster, and you see the quantity of men I will have to have to handle these fish. Now there is another man here who fishes for smelt and herring in winter time, but not in summer time—he is barred from fishing in the river and it comes hard upon them if only British subjects are allowed, but it would be better than to let in the Americans.

Q. But if they have been here long they should be British subjects—you see one great complaint has been made that many outsiders come in and fish?—A. Oh yes, that is right.

Mr. Wilmot.—I may say it is the unanimous opinion of the Commission that none but British subjects should get licenses.

By Mr. Armstrong:

Q. You catch any other fishes but smelt?—A. Flounders, halibut.

Q. Do you catch any flounders here?—A. Yes, we catch them in boats with seines.

Q. Any halibut?—A. Yes, some in the bay, the large quantities though are caught farther north.

By Mr. Wilmot:

Q. Are you identified with the company that are catching halibut and shipping them east?—A. In a certain way, I bought their fish and shipped them east.

Q. Has it been profitable so far?—A. Well it is this way, we have no markets, we have the fish and means of catching them, but we have no markets—they don't use much halibut in the east.

Q. What do you mean by "east"?—A. Well, in Montreal for instance, a ton of halibut would glut the market, then in Boston and eastern American cities we have the Atlantic halibut there before us. Then, again, we have many disadvantages in the ways of shipping—if we want to send halibut to Chicago it has actually to go round by way of Boston.

Q. And do you have to send halibut to Boston to sell in Chicago?—A. Yes, I believe there is a large company in Boston that control the whole trade.

Q. The British Columbia fishermen are virtually controlled by Boston dealers?—A. Yes, but I think they will make room for us in time, I think we will manage to get a foot-hold soon.

Q. Then the evidence so far is that a fair and large trade can be cultivated with regard to halibut fishing here?—A. Oh, yes; it is sure to come; we need a little protection and sympathy to help us along.

Q. What duty do you pay on halibut going to Boston?—A. One cent a pound.

Q. Has the representation been made that if fish was coming in as American fish they will go in duty free?—A. I have not heard of that.

Q. It is practised in Ontario; fish sent in as American fish go in duty free; a Canadian fisherman will sell his nets nominally to the Americans and then the fish goes in as American fish?—A. Yes; well, I think before the next November or December comes along we will find a great many of the fishermen from the eastern provinces out here catching the fish and sending them to the States, and it will need a good deal of protection; this halibut fishery is just beginning, and it will not do to let it run like the salmon fishery.

Q. Now, you have told us about the halibut; have you shipped any black cod?—A. Well, there are some in the market; we catch the skil; we catch black cod here; it is different to Atlantic cod; it is a different fish from the skil that comes in.

Q. Are they smaller?—A. Oh, the cod-fish we catch up here by hand lines, and it will weigh from 50 to 70 pounds.

Q. And the skil?—A. From four to nine pounds; it is a smaller fish; it has a flat head, very round, and the meat is pure white, very white; I will get some and show you.

By Mr. Higgins:

Q. Where are they caught?—A. Not here; I cannot give you the proper location, but I believe it is 300 or 400 miles this side of the boundary.

Q. Queen Charlotte Islands?—A. Yes, about there.

By Mr. Wilmot:

Q. Are fish sent over the American boundary?—A. I don't know; I have shipped it to Toronto and Quebec; but they have no skil there; now the fish is well thought of; many of my customers here think a great deal of the fish.

Q. It was represented to us at Nanaimo that cod or skil would not dry as well as the Atlantic fish; they cannot dry them for the foreign market.—A. No; they cannot be dried, but they can be pickled in salt very well.

Q. Then black cod or skil is a much more edible fish than the Atlantic fish?—A. Well, I don't know anything about the Atlantic fisheries; only I know they are selling just as well as Georgia-boned cod-fish.

Q. Then the ling; the ling is what you call your cod here?—A. Yes, sir.

Q. You see these local names confuse them as to market values, etc.; you have skil, black cod and ling; are they distinct kinds of fish?—A. Well, I think ling and black cod fish are same kinds of fish. Mr. Ladner, do you know anything about it?

Mr. Wilmot.—Mr. Inspector McNabb might know something about it.

Mr. McNabb.—The true cod does not exist in British Columbia waters, but the ling are very much like the Atlantic ling.

Mr. Wilmot.—But the Atlantic ling are quite distinct from the Atlantic cod.

Mr. McNabb.—Oh, yes; quite distinct and the cod are quite different to the ling.

Mr. Wilmot.—Well, the object of asking these questions is to get information about these fish.—A. Well, the ling and the cod-fish are one and the same fish as far as I can find out from all fishermen.

Mr. McNabb.—Oh no; if you see a ling and a cod fish alongside of each other you would see the difference—the fins, etc., are quite different.

By Mr. Wilmot:

Q. The ling with us are more of the style of an eel—they have a continuous row of fins right to the tail?—A. Well, that is the kind we catch here.

Q. And the codfish—has not that continuous kind of fin?—A. I have not handled any of them like that.

Q. And you think it is not advisable that licenses should be made transferable at all?—A. No sir; I would not think so.

Q. You asked the reason some little time ago why sockeye was bred at the hatchery instead of "quinnat"—can you give us any information from your own knowledge as to the benefit derived from the hatchery?—A. No; none at all.

Q. You say men who fish with you fish with seines?—A. Yes; right out in the harbour—there are some of the fishermen here who will give evidence that they fish with the seine.

By Mr. Armstrong:

Q. We are much obliged to you for the information you have given us.—A. With regard to the quantities of licenses—two licenses will be of very little benefit.

Q. But, they will be better than none—will they not?—A. Yes sir; but if any considerable time between now and when the licenses would be issued it will be of very little benefit.

By Mr. Wilmot:

Q. You can purchase from others who have them?—A. No, that would not do either—oh, you mean to buy fish from them?

Mr. WILMOT.—Yes; it is just for the present—it may be a few days or a month before the others are issued.

Mr. HIGGINS,—I wish a subpœna issued for Mr. Allan, a hotel-keeper here—I wish to find out about the licenses he had.

Mr. WILMOT.—Oh, yes.

The secretary was then directed to make out a subpœna calling upon Mr. Allan to be present before the Commission at 2 p.m.

JOHN KELLY, a native of Newfoundland,—for two years in British Columbia, describing himself as of no particular occupation, though bred a fisherman, a resident of Vancouver, was duly sworn.

By Mr. Wilmot:

Q. Well sir, what have you got to say—what do you come before this Commission for?—A. Well sir, I will tell you the truth—I am on my oath. I have been handled very badly since I came here—we bought twine and made nets—we bought enough to run nets out to the lighthouse there and we have never wet it yet—we spent all the money we had and are now nearly done up.

Q. How are you done up?—A. Well, I had to get a house and the wind blows into it in the fall and the boys are working at it there—I have three sons of my own.

Q. But why could you not use this twine?—A. I could not get a license.

Q. Why?—A. The cannerymen had them all—they had all the licenses.

Q. Then do I understand you there was no licenses because all were taken up?—A. There were no licenses for me—I could not get employed at all.

Q. Then you could not get a license and you feel aggrieved at that?—A. Yes; I could not get one nor my boys either.

Q. Anything else?—A. Well, there was a cousin of mine came here and he brought his twine with him and he left too; he could not use them; he could not get license. It ruined him anyway.

Q. Do you know of other persons getting licenses since you applied?—A. I don't know of anything except myself.

Q. Did you tender money, too?—A. Yes; one year it was $5, and last year it was $20.

Q. Were you willing to pay $20?—A. Yes; I know nothing else to do, except work on the water.

Q. Have you anything else to say?—A. No; sir.

Q. And in Nova Scotia, did you fish there?—A. No; not Nova Scotia. I don't belong to Nova Scotia. I come from a better country than Nova Scotia. (Laughter.) I come from Newfoundland.

Q. And don't you think this a better country?—A. No; I don't. My friends have gone back.

Q. And what kind of fish did you fish in Newfoundland?—A. Well, all kinds, sir.

Q. And what kinds do you fish for?—A. Oh, well I fished for soles and bad heads and all sorts.

Q. Well, you might fish for soles here?—A. Well, perhaps so.

Q. You would not want a license to fish for soles here; what others did you get?—A. Oh, capelin and cod and all kinds. Now, I am able to tell you just what you asked this man who was here.

Q. You think the cod the same as you catch in Newfoundland?—A. Yes; just the same. Then at home we catch black cod, but here the oil is in the liver.

Q. You have seen the cod that is caught here?—A. I have seen almost all of them. I have caught capelin, that is bait for the fish.

Q. Well, then, you think the cod is the same here, except one has oil in its body while the other has oil in its liver?—A. Yes, sir; that is straight.

Q. And what do you think of ling?—A. Well, I have not caught many of them. I am a stranger out here, but after a while I will catch all of them.

Q. Have you caught halibut?—A. No, sir. I have caught them on the banks.

Q. Then you think the main grievance is that you have come here and you cannot fish?—A. Yes, sir; and would you not think it a grievance after coming here and buying a house and fetching twine here, etc.?

Q. Well, sir, I hope you can do better?—A. And all my boys too, sir. I tell you gentlemen it is a shame; here are Italians and Chinese and all sorts at work fishing, and good Englishmen and British subjects on their own soil cannot get a license; that is what England does everywhere; she gets new countries for people to go to after hard fighting and work, and then very fine Englishmen and Irishmen go around and cannot get anything to do. Is that right, sir; is that the proper thing in our own country? (Applause.)

The CHAIRMAN.—Order, order, please.

Q. Then you think Italians and others are not as good as Englishmen?—A. (emphatically) No, sir; I know they are not. I have been in their countries; I know them; many a blow have I put over their heads. (Laughter.) Oh, I have been among them; why in Sicily once two of us licked about a dozen of them; pshaw, a good sturdy Englishman or Irishman is worth a half a dozen of them any day. (Laughter.)

Q. Who did you apply to for license?—A. Mr. Oppenheiner was one; then the inspector. He told me there was no licenses—the cannerymen had them all.

By Mr. Higgins:

Q. What did he tell you?—A. Oh, one thing and another; but he didn't ask me questions like this gentleman has been doing, like a gentleman should. I understood the canneries had them all.

Q. But you would be interested to know that the records don't show that cannerymen got all?—A. Well, I don't know. We want to get licenses, if possible, and if we get them the money won't go home to Italy, or it won't go to China either, as such a lot of it does now to the shame and disgrace of the country, while our own people can do nothing. I do hope you gentlemen will remedy the matter. I have three boys, and we are all fishermen and have our twine, etc., and we are not fitted for much of any other calling. It is really very hard that we cannot get licenses.

Mr. WILMOT.—Well, sir, your complaint is recorded. That will do.

A. W. WRIGHT, a native of Canada, six years in British Columbia, a fish-dealer, and resident of Vancouver, was duly sworn.

By Mr. Wilmot:

Q. Now, Mr. Wright, will you submit your views or complaints to the Commission—whatever you may have to say?—A. Well, the first subject I would like to mention is that I represent the British Columbia Fishing and Trading Company, of Vancouver, as secretary-treasurer.

Q. Well, sir?—A. The first thing I would like to mention are licenses. Last year we applied for licenses, but we were not furnished. This year we applied for ten licenses. We have large orders for salmon from eastern Canada and the United States, and we are not able to fill them.

Q. For what reason?—A. Well, no licenses are issued yet.

Q. And you cannot supply your customers for want of licenses, is that it, sir?—A. Yes.

Q. Have you been engaged in work before last year?—A. This company has been organized about six months, and Fader Brothers carried on the business before that. I am only speaking of my business for this year—practically the same company applied for licenses last year. If any provision can be made in the meantime, the same as for Mr. Winch, I would very much like to have it done.

Q. Well, I simply read the letter from the department to the inspector authorizing him to issue in erim licenses.—A. Of course, shipping in car-loads as we do, two licenses would be of very little use to us.

Q. It is a question if you want licenses at all for halibut?—A. Yes; but I am speaking of salmon. These men won't carry up two or three salmon, and it would be very difficult to gather fish up.

By Mr. Armstrong:

Q. But if fishermen got licenses, could you not get fish from them?—A. Well, but then we are at a disadvantage when Mr. Winch and Mr. Port get licenses.

Q. Oh, but you are not—they have no licenses now.

Mr. WILMOT.—No. You are all on the same footing for this year.

By Mr. Higgins:

Q. Did Fader Brothers have licenses last year?—A. They never had licenses.

Q. Were there ever any licenses issued for Vancouver?—A. No; not at all. There has never been any that I know of.

By Mr. Wilmot:

Q. Have you any knowledge of this halibut trade?—A. Yes, I have.

Q. Is this company identified with catching the fish lately and shipping them?—A. Yes, sir.

Q. Has your success in catching them been very satisfactory?—Yes, the halibut is very plenty.

Q. And do they take in eastern markets as well as the eastern halibut?—A. Yes, our representative, Mr. Grant, who has just returned, tells us they take better in some places than eastern halibut—the trouble is chiefly that we cannot get express service.

Q. Have the profits been remunerative?—A. Oh, yes.

Q. And then it looks to become a very profitable business?—A. Yes.

Q. And if you can do business with Chicago and other western cities it will be still more remunerative?—A. Yes, we propose establishing an agency at Winnipeg,

By Mr. Higgins:

Q. If you cannot get a license would it be remunerative?—A. Well, if there were no licenses given there would be no salmon caught I suppose.

Q. You speak of salmon?—A. Yes.

Q. And you would have to buy from others?—A. Yes, some one would have to have licenses.

Q. And if you had to buy them it would place you at a serious disadvantage would it not?—A. Yes, sir.

Q. Are these halibut caught out far from the coast? These supplies that you have obtained were they out any distance on banks?—A. No, sir; I have been up several times to the fishing grounds—we find during the summer season halibut come down very close, and as soon as the cold season comes they go up north almost to the Alaskan Boundary—you will find them there very plentiful.

By Mr. Wilmot:

Q. You have our Canadian fish at the Boundary then?—A. Well, they are certainly very loyal—they wait for us to catch them. (Laughter.)

Q. And would the fishing be outside—off some distance from the coast?—A. Well, no; our fishing is mostly within the three mile limit.

Q. My object in asking you this is to find out where fishing is done, because I do not think it is necessary for you to get a license for deep-sea fishing, though I am not quite prepared to say exactly—I think in the inlets and bays licenses are necessary, but not in outside waters?—A. There is one matter I would like to say. We used a beam trawl like what is used off the English coast and in trawling off the coast here for halibut or any fish we may take in, we may take young salmon. Well, how would that effect us—we don't need a license for it but if we take salmon?

Q. Do you use a long beam trawl?—A. Yes, about 40 feet.

Q. It sweeps along the bottom and takes in everything?—A. Yes, sir.

Q. The opinion is in England and other countries that this trawl is very destructive because it takes in everything along the bottom, and destroys vast quantities of young and immature fish?—A. Well, it is not necessary to kill the small fish—the fish all come up alive that I have noticed in the net, and the small ones not used for commercial purposes are thrown overboard.

Q. Well, that is at present, no doubt, because the commercial needs for fish are somewhat limited?—A. Well, perhaps—we use the same trawl.

Q. What size of meshes in the bag?—A. The meshes decrease towards the bag. I think they would be $2\frac{1}{2}$ inches extension. $1\frac{1}{4}$ inch square.

Q. Well, now, what sort of fish do you catch in this trawl?—A. Well, soles, and flounders, and halibut.

Q. Have you soles here, the true sole?—A. Yes, sir; we have got brill, too.

Q. Do you catch soles with the others?—A. Yes; brill is caught occasionally with halibut and flounders, dog-fish, etc.

Q. What is the average size of soles you catch?—A. Well, from 4 inches long to about 8 inches.

Q. They are pretty broad, are they not?—A. Yes, sir; they are rather broader than long.

Q. And brill?—A. They are larger again; 14 to 16 inches long.

Q. And cod are larger yet?—A. Yes.

Q. And salmon, what size would you catch?—A. Oh, any salmon that might be in the water.

Q. Adult fish or would they be young?—A. Oh, no; adult fish.

Q. Any herring?—A. No.

Q. Flounders?—A. About 12 to 14 inches long.

Q. My desire in asking you is that there is a desire on the part of the Government to protect the young fish so they may grow to marketable size and be useful. And where are these shipped to?—A. To the North-west and other places.

Q. Then you are one who does not think Canada is a foreign country?—A. Oh, no; we have shipped considerable to the United States, Boston and New York. About taking the small fish; I have never seen the small fish; I do not think the breeding grounds are in shore; we have done our fishing in deep waters and I have never seen the young fish in those waters.—A. No; the breeding grounds are in rivers and apparently they do not stay in those waters.

Q. No; but you see there would be small brill and soles and flounders, etc., in the neighbourhood of where you catch the big ones?—A. No; not necessarily. Now we never see small halibut. We catch all sizes of big ones, but the breeding grounds seem to be outside.

Q. But would not the little ones be on rough bottom?—A. No; we cannot get fish on rough bottom.

Q. But on a gravelly bottom with stones like this (ink-bottle), the young of flounders will run right into the gravel and soon be out of the way?—A. Well, a trawl would take a stone like that in. We fish on sandy bottom and have never seen small ones.

Q. Then you think the halibut fishery will become very important to British Columbia?—A. Yes, sir.

Q. What size of sole did you say you take?—A. Well, about 10 inches. We hardly think it right that we should not have any licenses in Vancouver. New Westminster seems to get the whole of them.

Q. The trouble lies here, with a large number of canning establishments and then parties like yourself all getting licenses, query: would it not be too many for the river? The trouble is to fix it so the river will not be over-fished.

Mr. Higgins.—Do you not think that would arrange itself?

Mr. Wilmot.—Well, yes; it might be a "survival of the fittest."

Mr. Wright.—Well, we think we should be encouraged; we have invested a large amount of money in the business.

Mr. Wilmot.—Oh, yes; I merely throw this out to see if you think it can be overdone; you see if there are so many getting licenses here and so many in Westminster, and so many canning establishments all getting licenses, it might over-fish the river; the object is not to do this if possible.

Mr. Higgins.—But would people catch fish if they could not sell them?

Mr. Wilmot.—Well, we have found that great quantities were caught and then thrown away.

Mr. Higgins.—Yes; but I think it would fix itself; it is debarring people from getting licenses that gives all the trouble.

By Mr. Wilmot:

Q. Have you anything else, sir, you wish to say?—A. No, sir.

Mr. Armstrong.—We are much obliged to you, sir, for your information; it has been very interesting.

JOHN INGLEHART, a native of Quebec, four years in British Columbia, a fisherman, and resident of Vancouver, was duly sworn.

By Mr. Wilmot:

Q. Well, sir, what have you to represent?—A. Well, I heard that last man say they were not able to buy fish from the fishermen; I fished last fall; I got a license and I came last fall to sell my fish, but they would not buy my fish; I saw lots of Indians there selling fish and I could not sell my fish, but had to go around town and sell them as best I could.

Q. Well, where were the supply of fish these people obtained; where did they get them?—A. Well, I think they got them from Indians; I see lots of Indians come here and they have no licenses and they sell their fish.

Q. And you think if Indians sold fish without licenses you labour under disadvantages?—A. Yes.

Q. What net do you fish with?—A. I fish with sockeye net, a drift net.

Q. Where do you fish?—A. Right around here in the harbour.

Q. What do you catch principally?—A. Sockeye and dog-fish sometimes.

Q. And cod-fish?—A. I only caught two cod-fish in my net.

Q. And spring salmon?—A. No; not here.

Q. Where do you catch those?—A. I catch some spring salmon in the Fraser River; I had a license for there, too.

Q. Are sockeye numerous here; do you catch them in any numbers here?—A. Well, I was not fishing much here; I fished in the Fraser River and afterwards came here.

Q. And you complain that other persons who did not take licenses had the advantage of you in selling fish to this market, or to the persons here?—A. Yes; I wrote myself to Mr. Mowat to come and stop that, as we were not allowed to sell our fish; it was a shame to rob the Government in that way.

Q. You wrote to have people stopped who were fishing without a license?—A. Yes.

Q. Did you have license last year?—A. Yes, sir.

Q. You have had licenses since you were in this country?—A. The first year I fished for Mr. Munn; he was in Westminster; I went to Mr. Mowat, but he says, "all the licenses are given away." "Well," I says, "I must have one, I am still a fisherman; I commenced to fish when ten years old." I wrote to Ottawa about it, but it was too late, and he told me to go to Mr. Mowat, and next year I had a license.

Q. What year was that?—A. The year before last; I fished for Mr. Ewen.

Q. What was the quantity of sockeye you caught last year and the year before?—A. Last year I caught about 4,000.

Q. And what did you get for them?—A. Ten cents a piece.

Q. And what was the usual weight?—A. The sockeye about 4, 5 and 6 pounds.

Q. Did you ever catch any as high as 8 or 9 pounds?—A. Well, I never remember I never weighed them either.

Q. Do they make any difference in the weight of fish in buying them?—A. No, suppose it is 20 pounds, you would get just the same.

Q. What part of the river did you fish in?—A. Oh, all along the river, in spring 4 miles below Westminster, and when sockeye came in, I went to fish at the mouth of the river.

Q. On the sand banks?—A. Yes sir.

Q. And are the boats very numerous?—A. Yes, and I will tell you something, I swore to tell the truth, I was here 3 years ago, and I fished for Mr. Munn, and every one had a license, and they set their nets right on top of us, there was 200 and 300 fathoms of net.

Q. And then the 150 fathoms was not stuck to?—A. Well, I don't know, the law was not in force for that then.

Q. Do you think it injurious to have a continuous string of nets running down there?—A. Well, I don't know.

Q. Have you any nets there with wings?—A. Well, I think 150 fathoms net is long enough.

Q. What meshes deep are they?—A. 45 at the mouth of the river and 35 and 30.

Q. Have they ever been troubled with offal in the river much?—A. Well, yes, last year I went down from Mr. Ewen's cannery, and the first time there was an Italian, he put his net about 20 yards from me, I saw nothing at all that time, then when I went down to lower end of my drift I hauled up my net and he came behind me and I set my net across and he came again and he put his net about 40 yards from me, and I said that is not the way to fish, you break the Government's law.

Q. Oh yes, you mean to say the nets are too close together, but do you ever get offal in your net?—A. Yes, I got 5 or 6 last year, only 5 or 6 heads.

Q. What effect on the river has the offal?—A. Oh, I don't think it hurts it much.

Q. What effect in creating sickness on the river?—A. Oh, I was there for years and I drank the water.

Q. And did it affect you at all?—A. No, sir.

Q. What about the close season on that river, I mean from 6 o'clock Saturday night to 6 o'clock Sunday evening, do you think the whole of Sunday should be kept as against fishing or not?—A. Well, I don't know.

Q. Do you fish on Sunday yourself?—A. No, I never do that, even when I might fish, I never worked on Sunday since I commenced.

Q. And a man who fishes on Sunday and you don't, has he any advantage over you?—A. Well, I never see any fishing until 6 o'clock Sunday evening.

Mr. Wilmot.—Very well, thank you sir, that will do.

Dr. Duncan Bell-Irving, M.D., a native of Scotland, a resident and practising physician in Vancouver since 1883, was duly sworn.

By Mr. Wilmot:

Q. Now, sir, have you anything to present to this Commission?—A. Well, I was asked to state what I knew about the typhoid fever on Lulu Island and Sea Island. I have treated a large number of cases since my arrival here, especially in the last year, but there have been always cases there. I have noticed that out-breaks on the Delta land are the same as we have here in Vancouver, the same causes that produce it here produce it down there, and from observations I have made I have come to the conclusion that the water of the Fraser River has not so much to do with it as the surface water they use and the general state of farm buildings, etc. I have frequently noticed the well will be in the front yard and the privy and cess-pool not 20 or 30 yards away and as the water rises with the rise and fall of the tide, it really don't make much difference whether they take the water out of the well or from the cess-pool.

Q. Then they are not persons of taste? (Laughter.)—A. Well, I would not say the water would not taste better, but it requires such a small quantity of the poison to cause the fever that it would not make much difference. I have noticed also that the

outbreaks of fever seldom correspond with the salmon fishing time; there has really been more sickness there after the fishing is done in October and December, and the last case I treated there was just before Christmas time, and I cannot conceive that the offal has had any effect in bringing about this late case. We had precisely the same experience in Vancouver here, before the water works started it was all over the city, but since then it is confined to the outskirts of the city where the water is confined to wells and cess-pools, and I think it would be better to drink water from the river than from the surface cess-pools and wells. I have frequently told the farmers down there that they should not drink the surface water and they should have tanks. It is the same way in all flat lands—if you cannot get wells below the surface it would be better to use the rain water kept in tanks. Then the numerous numbers of dead salmon I have seen on the banks up the river will do much more harm than the offal that is dumped into the fresh water, because the sun and heat has undoubtedly something to do with the formation of this poison.

Q. Have you anything further to submit?—A. I think that is all.

Q. Then your general impression is to say the offal is not injurious?—A. I would not say it improves the water, but I don't think it causes sickness.

Q. You have been treating patients in Lulu Island and Sea Island, when was the principal time?—A. I would think in November and December, but there are cases all the year round.

Q. Would decomposing vegetable matter be as injurious as animal matter?—A. Oh, yes; but it takes a long time.

Q. The fishing goes on in July, does it not?—A. Yes.

Q. And the offal is thrown in; how long would it take to decompose?—A. Oh, but a few days.

Q. And fishing ends about the end of August?—A. I don't know about that.

Q. If this offal lodges in bays and sloughs would it not decompose there?—A. Undoubtedly it would.

Q. Would it not throw off deleterious matter?—A. Oh, yes it would.

Q. And you think that has no effect upon health?—A. I am not prepared to say it has, but I think if not a bit of salmon were thrown into the Fraser River—I think the people would be just as bad because it is almost impossible to get good water there.

Q. How long have you been practising there?—A. I came to the country in 1883, and have been practising on and off since then.

Q. And you have had many cases of typhoid fever?—A. Yes; many of them; more last year; in fact some of them are not over yet.

Q. And you think drinking water from the river would be better?—A. Yes; I think it would be much better. I think the sewage and matter from these cess-pools is really the cause of the typhoid fever.

Q. And it is not added to by the offal that is thrown in?—A. I think it would be just as bad if no salmon were thrown in at all.

Q. I suppose you know the old adage, "that doctors differ and patients die?"—A. Yes, I know.

Q. And suppose other doctors gave a different opinion?—A. Well, it would not alter my opinion.

Q. And you think taking water from the deeper portion of the river would be better than from shallow waters?—A. Yes.

Q. And if this deep water is impregnated with poisons, would it not be bad?—A. Yes; I would not care to drink it myself; I told these people time and time again that they will have to make tanks and collect rain water from their sheds.

Q. Some of the doctors say put a little whiskey in it; do you think the same?—A. Well, it would take a great deal of whiskey to put in it. There is nothing peculiar about this; I have seen the same thing in many flat countries; I have been in Demarara and Holland, and it is all the same, and there are no salmon there.

By Mr. Higgins:

Q. You say you would think the water would be better to drink than the surface water?—A. Yes; I would rather drink it but not from sloughs.

By Mr. Wilmot:

Q. Then you think offal has an effect on the water of the river?—A. Well, I consider the dead fish much worse.

Q. But you say fresh offal thrown in would decompose in a day or two?—A. Yes; but the body of water is so great.

Q. But these dead fish up river would not effect it by floating up there and not down below?—A. Well, perhaps; what I said was that offal dumped in the water would not be as bad as dead fish decaying and floating down in such great numbers.

Q. But if offal is added to those dead fish, would it not make it worse?—A. Well,——

Q. Does the use of foul waters produce dysentery?—A. Oh, there is no doubt of that.

Q. Then if persons have dysentery in that neighbourhood would you say it was brought about by foul water?—A. Well, I would say it was one of the commonest causes for dysentery; but I have examined the water from many of the wells on the island and "impure" is no word for it.

Q. And are we to infer that they prefer drinking that water there, whereas the water along the shore of the river is better?—A. Well, they cannot get any other kind; they live some little way from the shores, but it is not peculiar to Lulu Island; it is the same up here.

Q. But would this impure water permeate through the soils?—A. Yes; I have no doubt it would.

Q. Then the wells would be impregnated from these impurities?—A. Yes; there is no doubt it would; these impurities from the sub-soils filter through.

Q. You see, Dr. Bell-Irving, that when residents of a community petition against this matter it is the duty of the Government to find out all about the causes of these sicknesses.—A. Yes; but I do not think it is the offal; if a net was stretched across the Fraser River and all the fish caught in it dumped there, I do not think it would be any worse. This is no opinion got up for the occasion; I have held these views for a long time. I believe typhoid fever there is produced from the same causes as in Vancouver and all other parts of the world, viz.: sewage and cess-pools; they are responsible for nine-tenths of all the typhoid fever the world over.

Mr. Wilmot.—Thank you, sir.

———

WILLIAM CAMPBELL, a native of Scotland, three years in British Columbia, a fisherman, and resident of Vancouver, was duly sworn.

Witness.—Well, I have applied three years now for a license and could not get one.

By Mr. Wilmot:

Q. Licenses to fish where?—A. On the Fraser River.

Q. Was any particular cause given why?—A. Well, they say everybody that went there and put in an application called themselves a fisherman and the licenses were all given out and there was none left for me.

Q. Were you a fisherman in Scotland?—A. Yes, sir.

Q. What inducement brought you to this country?—A. Well, I came to this country with the intention of fishing.

Q. Did you come to this immediate neighbourhood for that purpose?—A. Yes sir.

Q. And you found you could not fish without a license?—A. No sir.

Q. And did you fish for other people without a license of your own?—A. Yes, sir; I was fishing for Mr. Munn.

Q. And you think it a hardship as a British subject that you cannot get license to fish?—A. I do.

Q. Do you know of other persons getting licenses after you applied?—A. I could not say—I applied soon enough.

By Mr. Armstrong:

Q. On what terms did you fish?—A. I was hired by the piece—six and a half cents a fish.

Q. With another man with you?—A. Yes, sir.

Q. Did he get six and a half cents?—A. No it was six and a half cents for two of us.

By Mr. Wilmot:

Q. Which included boat and net?—A. The boat was our own but not the net.

Q. So for the use of the boat you two men got six and a half cents for the fish?—A. Yes, sir.

Q. Was that the current price for fish on the river?—A. I think some got eight cents.

Q. Did any get twenty cents?—A. As far as I can understand, some who had licenses of their own got twenty cents.

Q. And you would expect to get more if you had licenses of your own?—A. I would expect to get twenty cents.

Q. Have you made any calculation of the fish you caught?—Yes; last year was a small year and we caught over four thousand fish.

Q. Do you know of more fish being caught than could be well got rid of at the canneries?—A. Well, we skip one or two days when we don't fish at all.

Q. What is the usual size of salmon you catch?—A. From six to eight pounds.

Q. Are you aware of any quantities of fish being thrown away because they cannot be used?—A. Not last year.

Q. Any year?—A. Yes; I think they were the year before.

By Mr. Armstrong:

Q. But do you see any one throw them away from off wharves or from the camps?—A. Well, I don't see that.

Q. Then you don't know?—A. We can only take what you see yourself.

By Mr. Higgins:

Q. Do you own your net you fish with?—A. No sir; I got it from the canneries.

Q. Do you own your boat?—A. Yes, sir.

Q. What was the boat worth?—A. $40.

Q. Did you build it yourself?—A. No, sir.

Q. Did the cannery charge you anything for lending you the net?—A. Well, that was according to the price I got for the fish.

By Mr. Wilmot:

Q. Then if you owned the net you would get more for your fish?—A. Yes.

Q. What is the price of a net?—A. Well, I think we could get one like we fished with for $100.

Q. Where did you fish?—A. At Sea Island.

Q. And were the boats wide apart?—A. Well, I think there were enough boats fishing there last year.

Q. Was any restriction made to leave a certain portion of the river open or was it fished all over?—A. It was fished all over as far as I could see.

Q. What is your idea of the effect of offal thrown in the river?—A. Well, I don't know that it made any difference to the fish.

Q. Any to your nets?—A. It does, I believe—the oil gets on and rots them.

Q. What effect has it on the human family in drinking water?—A. Well, I think it is not very good, and I hear everybody complain.

Q. Do you drink it yourself?—A. Yes, but not if I can get anything else.

By Mr Higgins:

Q. Do you feel any effects from it?—A. No.

By Mr. Wilmot:

Q. Did you filter the water or take it from the river?—A. We drink it from the river.

Q. Do you get from above the cannery or below?—A. From above.

Q. Why?—A. Because it is better water.

By Mr. Higgins:

Q. Do you think decayed fish is worse than offal?—A. Well, I think fish thrown in would rot about the same.

Q. I mean the dead fish that float down?—A. Oh, I think they would be about the same.

By Mr. Wilmot:

Q. The dead fish that you see—do you think they were thrown in from the canneries or came down from the upper waters?—A. I thought they were fish that fell out of the nets.

By Mr. Higgins:

Q. Don't you think that the dead fish would not hold together to come down the river? We have evidence that live fish hardly hold together to go up?—A. No, I think they would hardly hold together to come down.

Q. Have you ever got any offal in your nets?—A. Yes, quite a few.

Q. What do you mean by a "few"?—A. Four or five in an hour.

Q. What do you do with them?—A. Oh, we take them out.

Q. And the only effect it has is to rot the nets?—A. Yes.

By Mr. Wilmot:

Q. Have you seen any offal along the sloughs and banks?—A. No, I think everything that goes in is taken right out.

Q. Any in the sloughs or bays?—A. No, I have never seen any.

By Mr. Higgins:

Q. Have you seen the Sand Heads bare?—A. Yes.

Q. Any offal there?—A. I have never seen any.

Q. Have you been out in Oulachan run?—A. Yes.

Q. Have you seen them in any large quantities under the canneries?—A. No, I cannot say I have seen them.

Q. Do you know of any coming to this country like yourself with intentions to fish?—A. Yes, I know of four others but they have gone back home.

Q. Because they could not get licenses to fish?—A. Yes.

Q. If they had got licenses would they remain do you think?—A. Yes, I think they would.

Q. Then not getting licenses has prevented settlers from coming here?—A. Yes, I think it has for fishermen.

Q. What is the occupation of persons who have licenses in the other part of the year?—A. He could pursue his fishing in some other way—he could go halibut fishing, or seining, or some other way.

Mr. Wilmot.—Thank you, sir.

The Commission adjourned at 12.30 P.M., to meet again at 2 P.M., at the same place

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Vancouver, March 12th, 1892.

Afternoon Session.

The Commission was convened at 2 p.m., in the Court House.

Present:—Mr. S. Wilmot in the Chair; Mr. Sheriff Armstrong and Hon. D. W. Higgins, with Mr. Secretary Winter.

Mr. NICHOL ALLEN, a native of Scotland, nine years in British Columbia, a resident, and hotel-keeper in Vancouver, was duly sworn.

Mr. WILMOT.—What have you to lay before the Commission?

By Mr. Higgins:

Q. Are you engaged in fishing?—A. I have a license for fishing, I have had it for two years.

Q. To fish where?—A. On the Fraser River.

Q. Did you ever live on the Fraser River?—A. No.

Q. Did you every follow fishing for a livelihood?—A. No, my intention was to follow it at the fall and I wanted to get two licenses, one for my son and one for myself. I wanted to go into the curing trade.

Q. Did your son fish?—A. No, he did not fish.

Q. Who supplied you with license?—A. I had it from Mr. Mowat.

Q. What did you tell Mr. Mowat when you went for a license?—A. Oh, I did not tell him anything. I wrote the Minister of Fisheries at Ottawa.

Q. Did you get a reply?—A. They told me they had referred it to their agent at New Westminster.

Q. Afterwards you got a license?—A. Yes.

Q. What did you pay for it?—A. $5.

Q. What did you do with it?—A. I paid two men to fish, and arranged with Mr. Todd to take the fish I would give him, and those he would not take I carted them into town and sold them.

Q. You hired two men to fish for you?—A. Yes, I gave them a percentage, I gave them one-third each, then I had a horse and cart and carted them into town.

Q. But that was two years ago?—A. Yes.

Q. And you paid them one-third each to manage matters, what would that be?—A. About $150 each, I could not exactly tell, that was two years ago.

Q. How did you get a license for the second year?—A. I applied for it, I sent my application to Mr. Mowat and employed two men for the year and they made about the same, the cannerymen pay them, that is one-third of the fish each and I take the balance for my net and license.

Q. And that gave you how much each year?—A. Oh, I had not much last year? I made a little before last year.

Q. Did you make $300 last year?—A. Oh no, not near that.

Q. After all expenses were paid?

Mr. ARMSTRONG.—You count your boat and net as expenses?—A. Oh, yes, each year that came out of the third, (the one-third.)

By Mr. Higgins:

Q. You had to supply everything?—A. Everything but the labour.

Q. You went on shares, each got one-third?—A. Yes, I had to keep up the plant in full and paid for the license.

Q. Have you applied for this year?—A. I have not yet but I expect to apply and I intend to apply for two licenses as I wish to go into the trade more fully.

Q. You are very modest, I don't think you should get any.—A. I think we should get a renewal.

By Mr. Wilmot:

Q. Have you any idea of the probable number of fish you divided the year before last?—A. About 8,000.

Q. And last year?—A. I think they would average about 4,000—it was a small year.

By Mr. Higgins:

Q. Yet you did better than the year before?—A. It was on better prices.

Q. You got 15 cents last year?—A. No; last year I didn't get so much. I don't remember exactly. I got 4,300 fish or something like that.

Q. The first year you got 15 cents?—A. I only averaged about 9 cents the first year.

Q. A pretty good investment, don't you think, to put in $5 and take out what you did?—A. Oh, well, I put in more than that—$20 last year. I don't think the investment is so very great. You want a new net every year, and really there is not a great deal in it.

Q. But there is so much in it you are going to apply for two?—A. But if I had two, I could give it more attention than if I had one.

Q. Did you sell the year before on the market or sell to the cannery?—A. I sold to a cannery—the Lulu Island Canning Company. Of course, it was the first year they started, and they wanted to get all the fish they could. Last year, Mr. Todd took all.

By Mr. Wilmot:

Q. You are not a practical fisherman yourself?—A. No; I am not a practical fisherman or dealer in fish.

Q. Very well, sir; that is all.

Captain GEORGE, a native chinook Indian, of Harrison River, was duly sworn. Being unable to speak much English, the questions put to him and his answers were interpreted by Mr. P. Tiernan, Indian agent.

Mr. TIERNAN.—I may say, before he commences, that fifty Indians came to me and wanted to come here before you, but I thought one would be enough to tell you all—he is a fisherman and farmer.

THE INTERPRETER.—He says that himself and others are not pleased at all.

By Mr. Wilmot:

Q. What at?—A. He says that the whole of the Indians only get forty licenses, and that they are very much displeased at the number they get.

Q. What is the number of their tribe?—A. His tribe is about 120 all told, but that does not cover all—the forty licenses cover all the tribes.

Q. Then their complaint is because they only get forty licenses?—A. He says the white men come here and get licenses and his people were here first. It is the same old story. The white men come and get licenses first in preference to them, and he says they should not. Many tell him the Indians come to help the fishermen. He thinks if the Indians would not help the fishermen, there would be no fishery at all.

Q. What does he mean by fishermen?—A. The canners.

Q. That if not for the Indians the cannerymen would not get on with their work?—A. Yes; that is what he means. He says God gave them these waters and the fish and the land, and now it is taken away from them by new comers.

Q. You tell him that the law gives preference to them—that they can fish without licenses for their own use, but not for barter or sale, and that when they come in competition with white men, they must stand in the same position as white men, but when fishing for their own use, they can fish without licenses.—A. But I may tell you, Mr. Wilmot, that they are not allowed to fish. I know an instance where their nets were taken and cut to pieces up at Yale—a poor cripple of a man—and they have not the privileges you speak of.

By Mr. Armstrong

Q. Well, who did that?—A. Well, I won't tell you who did it—I know who did it, and I had to pay $5 out of my own pocket to get twine for that poor old man.

Q. Do Indians use any other way than by drifting and spearing?—A. They don't spear at all—they only put up a few barrels for their own use.

Q. When did this occur, Mr. Tiernan, if you will not tell us the name?—A. Three years ago—it was an officer of the fisheries department.

Q. Then an officer of the law?—A. Yes.

Q. Well, I think the same law prevails here and it is intended at least that the same shall be throughout the whole Dominion, that Indians on their reserves shall fish at any time and in any manner, but they must not fish for sale or barter?—A. Well, that is just what I want to know—I wanted to know if they are allowed in any manner to catch fish for their own use; I want your opinion on that point?

Q. But if allowed to catch them for their own use they must be allowed appliances—they cannot catch them with their hands alone?—A. With nets.

Q. Well, if with nets they must be for their own use—but if they catch them and put them in the market they are the same as whitemen and must come under the same rules.—A. But they want to know if they can catch these fish and put up a few barrels of fish for their own use?

Mr. Wilmot.—Certainly they are allowed to do that—that is the intention.

Mr. Tiernan.—Well, I know an officer was sent up last year and they took away an old man's net—an old man 70 years of age, and he has never got it back yet.

By Mr. Armstrong:

Q. Well, I think you are bound to answer the question as to who this was—if you know it?—A. Well, I would not like to tell it.

Q. Well, there are lots of things people do not like to tell, but when on the stand they have got to tell it.

By Mr. Wilmot:

Q. Was it Mr. Green?—A. No.

Q. Was it Mr. McDonald?—A. No.

Q. It was not Mr. Grant or McNeish?—A. Oh, no.

Q. Then these are all the fishery officers—do you know Mr McNabb?—A. Yes.

Mr. McNabb.—No; I believe it was before my time.

Mr. Wilmot (to Mr. McNabb).—Those are all the officers I have read over?

Mr. McNabb.—Yes, at present.

By Mr. Higgins:

Q. It happened at Yale?—A. Yes.

Q. Then you have to give the name, Mr. Tiernan.

By Mr. Wilmot:

Q. And if this man did this it is most unjust?—A. Well, it is too late now—he is in New Westminster.

Mr. McNabb.—May I be allowed to say a word?

Mr. Wilmot.—Yes.

Mr. McNabb.—Under the present act none of the officers under me was guilty of this crime our friend attributes to me, but had that occured last year his net would have been taken away because the law demands it, because Indians are allowed to catch fish in any other way except by drifting or spearing and these are disallowed—an officer to do his duty would be obliged to do this.

A. Well, if I am compelled to say it—I am on my oath—his name was John Buie.

Mr. Wilmot.—Well, under the circumstances that Mr. McNabb states, John Buie would be perfectly justified in doing this. Mr. McNabb is it your duty to instruct officers under you to seize nets that may be used by Indians in the river?

Mr. McNabb.—Just to illustrate this, I may say last year I went out myself and the old man, the Chief, had a long net and he took it in and promised not to use it again. There was a good deal of correspondence with the Indian department, and after a good deal of correspondence, I received a letter which the Minister sent to the Indian department that an officer was obliged to take these nets, as it was against the law.

A. But in any case it exceeded the law to take it and cut it.

By Mr. Wilmot:

Q. Well, I don't know—if a net is illegally used and you simply take it away, it would be used again—the practice is to cut or burn them all over the Dominion—they

are generally sold at auction and bought in by friends—the best way is by destroying them—I merely speak of the general rule?—A. Well, but the general rule should not be in force against the Indians.

Q. Yes, but the intention is to give the Indians a privilege the whitemen have not—he can fish at any time on his reserves, but if he goes in to sell or barter, why he must be on the same footing as whitemen?—A. Oh, we know that—but, Mr. McNabb what does a whiteman pay for his privilege of fishing for his own use.

By Mr. McNab:

Q. $2?—A. Well, now sir; what great privilege is that—the whiteman fishes for $2.

By Mr. Higgins:

Q. But Indians fish for nothing—now what does this man (Capt. George) want?—A. He wants unlimited licenses for Indians—every Indian to get a license.

Q. Would they pay $20?—A. Oh, I don't know.

Q. Do they work for canneries?—A. Yes, they do mostly—may I ask if $20 will be the license fee this year?

Mr. Armstrong.—Well, that is not settled yet.

By Mr. Wilmot:

Q. Oh, yes; it is the law now—an Indian fishes for his own use now for nothing, except they use spears or drift-nets?—A. But under that law they cannot fish unless they go in and catch fish with their hands.

By Mr. Armstrong:

Q. The law intends they shall have the same facilities they had before whitemen came here?—A. Well, I will tell you—before the whitemen came they had nets and now they cannot have these—why should they not be allowed to fish?

By Mr. Wilmot:

Q. I must admit there is an error in some way in the regulations—the law at present says they cannot fish with drift-nets or spears, but cannot they fish with nishagans or negogs, or whatever they are called?—A. Oh, no; they do not use them here—that is for eastern Indians.

By Mr. Armstrong:

Q. But don't the canneries pay them well for their work?—A. Oh, well; the cannerymen always pay them whatever they promise—they treat them well.

By Mr. Wilmot:

Q. Well, you ask the Indian whether it is not a fact that their names are put down for a license and the canners pay for the license and use it—ask him that?—A. He says that some Indians have boats and nets of their own but not all of them and when they have not boats and nets the cannerymen—Mr. Munn and Mr. Ewen—and Mr. Laidlaw gives them $20 and supplies them with boat and net and when they get their money they pay them back.

Q. Then they virtually get the same privilege as whitemen and cannerymen get the advantage of boat and net?—A. Well, really I think the cannerymen do it for charity.

Q. Oh, no; for business?—A. Well, they would not give it to whitemen the same.

Q. Probably that is what he means by not doing without the Indians. The cannerymen put down the Indians' names for licenses and they get the licenses all the while!—A. But I know to my knowledge the cannerymen never put down their names without them going and working for it.

By Mr. Higgins:

Q. Just ask him again about the boat and net?—A. No; he says if they had no boat and net of their own, the canners say come and we will give you a boat and net for half the profit out of the sockeye; when he has no dollars he borrows the money from the canners.

By Mr. Wilmot:

Q. Then the license is taken out in the Indians name, but the canner pays the money and derives all the benefit from the license?—A. No.

Q. Ask him what he gets for his fish under this license?—A. Well, he says if they get 40 sockeye they give half to the cannery and the other half is their own.

Q. And if a hundred?—A. The same way; we give the cannery one-half and sell the other fish at usual prices.

By Mr. Armstrong:

Q. Well, ask him if he thinks the boat and net and license would be any use if it was not for the canneries to buy his fish?

Mr. Armstrong (who understood Chinook)—But you should not suggest the answer to him; let him put the answer himself; what does he say?—A. He says he could do nothing with them, but dry them and salt them.

By Mr. Wilmot:

Q. Just ask him how many fish he caught in his boat the year before last or last year?—A. He did'nt catch any; I can answer for him; he was not fishing; he is a kind of constable and goes about keeping the regulations between the different tribes of Indians and he did not fish at all; that I know of my own knowledge.

Q. Where does he reside?—A. At Harrison River.

By Mr. Higgins:

Q. Is he a representative of all the Indians?—A. Yes; he is a Chief. There were 50 wanted to come, but he came for all; he came on their behalf.

By Mr. Armstrong:

Q. Is there anything else?—A. He says that some persons told him in New Westminster that you (to Chairman) said the Indians were all lazy, and that they would fish for a few weeks only, and he says that is not correct and he is displeased.

By Mr. Wilmot:

Q. Well, just tell the Indian that the man who told him that also told a falsehood; tell him Mr. Wilmot has always been an advocate of the Indian.—A. Yes; he says he does not like Mr. Wilmot to go back to Canada with that idea.

Q. Yes; and you can readily understand that parties not liking Mr. Wilmot would tell him that to prejudice him and the Indians against me.—A. Yes; he says when the Princess Louise came here she spoke to him and she told him if anything did not go right to speak to her about it and she would represent it to the Queen.

By Mr. Higgins:

Q. Well, but what is it he does'nt like?—A. Well, it is this: that Italians and Greeks and other whitemen come here and get all the licenses on the river.

Q. Well, you should disabuse this man's mind of that; they would do nothing with the fish if the whitemen were not here?—A. Yes; but they all work.

Q. Well, so do we all work. You see if even the Indians catch less fish than the average whiteman he gets some $200 at least for them, and if it was not for the canneries they would get nothing at all?—A. Another grievance is one entirely among the Indians themselves. You see they only get 40 licenses and the same Indians get them all the time and of course there is much discontent among the other Indians.

Mr. Higgins.—Yes ; but that is for Mr. Wilmot to look into ; but you should disabuse the Indians' minds that they should have all the land and all the fish, etc.

Mr. Wilmot.—I think it is the rule all over the Dominion that all Indians on their reserves have the right to fish and get all they want, but as soon as they begin to compete with white men, they must come under the same conditions.

Mr. Armstrong.—Well, we have allowed this to go on, Mr. Tiernan, because it is an Indian matter, but I think it has gone on long enough. We should not let you speak at all, Mr. Tiernan.

Mr. Tiernan.—Oh, well, it has, perhaps, gone long enough. I am much obliged.

———

L. H. BAIN, a native of New Brunswick, in British Columbia since 1879, bookkeeper for the "Delta" cannery at Ladner's Landing, where he is a resident, was duly sworn.

By Mr. Higgins :

Q. How long have you lived at Ladner's Landing ?—A. Seven years.

Q. Do you know a slough called Cohiluthan Slough ?—A. Yes.

Q. Can you give the Commission some idea of the condition of that slough ?—A. Well, I have made a rough sketch of the slough and vicinity. If you will allow me to put it in, I will explain it.

By Mr. Wilmot :

Q. Does it differ materially from this printed map ?—A. Well, it shows the residences along the river and slough, and will explain it in more detail.

By Mr. Higgins :

Q. What is the length of that slough ?—A. Well, from the head down, about two miles.

Q. (Scanning diagram handed in.) What are these marks dotted along here ?—A. Those squares are dwelling houses. Those red crosses are stables. These red lines show open ditches running into the slough. This here is a dam about half-way up the slough —this dam has been there for last two years. There is a gate in it, but any offal coming up the slough—very little could go by there, it would lodge. Very little would go to the head of the slough. This is the locality where there were several cases of typhoid fever, and this is the residence of Mr. Arthur, who gave evidence before the Commission at New Westminster.

Q. What is the distance between the "Delta" cannery and Mr. Arthur's residence ? —A. About two miles or two and a half.

By Mr. Wilmot :

Q. Going up the slough, is it longer ?—A. No ; it is two and a half miles by the slough. I may say in regard to offal of last year—previous to last year all offal was thrown in the river—before last year, I never heard of any complaints from offal being thrown into the river, and the fish from the "Delta" cannery—it has been running an oilery, and all the offal from the cannery has been going to this oilery.

By Mr. Armstrong :

Q. Do you put that (the diagram of the slough) in as evidence, Mr. Bain ?—A. Well, I merely made it to explain my statements. I would think that any offal that went up last year was the result of an accident. The place where we put the offal into the scow broke down, and the offal, for one day's work, went into the slough, and a portion of that may have gone up the slough, but none went in this year except that.

By Mr. Wilmot :

Q. Where are their canneries from here (showing plan) ?—A. Mr. Wadham's cannery is about half a mile from there. I was saying that what offal did go up the slough

last year was the result of an accident on account of the staging breaking down. I would also say that where there were several cases of fever, the people don't drink slough water—they drink water from tanks and reservoirs.

Q. And there they had fever?—A. Yes; here at the dam where any offal coming up the slough would be certain to lodge, there were no cases of fever at all; and if the water in the slough is contaminated it is from the drainage from the houses and stables.

Q. (Scanning diagram)—What does crosses here designate?—A. Stables.

Q. Is this plan drawn to a scale at all?—A. No; it is simply drawn from memory.

Q. Do you know whose house that is (pointing to plan)?—A. It is Herbert Kirkland's, about 50 or 60 yards from the edge of the slough.

Q. And who lives here?—A. Mr. Thomas Ladner's farmhouse.

Q. Where is Mr. William Ladner's, how far from the slough?—A. About a quarter of a mile, more or less; well, yes, about a quarter of a mile.

Q. Then what you contend is this: that by an accident the Delta cannery allowed a portion of its offal to get into the water and it was carried up into the slough?—A. Yes; now there was a certain part of it went up the slough, not all of it.

Q. What other canneries are there between the slough and Canoe Pass?—A. Wadham's, the Harlock, a cannery near Canoe Pass; all these were furnishing the oilery with their offal.

Q. Does the tide run very strong there?—A. There is a rapid current all down there.

By Mr. Higgins:

Q. Is the water in the slough fast?—A. Oh, about two miles an hour.

Q. What do you think the current of the Fraser is?—A. About six miles an hour.

By Mr. Wilmot:

Q. And does offal lodge anywhere else along the shore of the river, from Canoe Pass up to Ladner's Landing and Crescent Slough; have you ever seen any offal lodging along there?—A. I have never seen any offal along there and with the exception of Wadham's, all the offal went to this oilery.

Q. All got there?—A. Well, I cannot vouch for all offal from others, but as far as the "Delta" cannery is concerned, it all went except that day I told you of.

Q. How does it come down from the cannery?—A. It comes down in a shoot into the scow.

Q. And you think it all went to the oilery, except this case you mention?—A. Yes.

Q. Where are these houses drained into?—A. Into the slough.

Q. Do you live near the slough?—A. Oh, yes.

Q. Did you ever drink any water from the slough?—A. Yes; I have drunk it last season and every season.

By Mr. Higgins:

Q. Any consequences?—A. No.

Q. Have you heard of any one else, any typhoid fever?—A. One case at this hotel.

Q. Died?—A. No; I don't think so.

Q. When did that occur, last year?—A. Yes.

Q. The only year you didn't throw offal into the river, how do you explain it?—A. Well, it must have been through other causes.

Q. Do you think the drainage into the slough is bad for the public health?—A. Yes; I should think it is.

Q. Did you ever see the slough bare?—A. Yes.

Q. What colour was it?—A. Black and muddy.

Q. Did you ever see persons mixing lime juice with that water?—A. No; I don't know.

Q. How many houses do you think drain into the slough?—A. Well, I am not prepared to say exactly, about 50 or 60.

Q. Are you a resident of Delta?—A. Yes.

Q. The town is composed of how many inhabitants?—A. The village of Ladner's Landing? Oh, about two or three hundred.

Q. They have a council?—A. Yes.

By Mr. Wilmot:

Q. Are these respectable men that compose this Council?—A. Yes, sir.

Q. Quite respectable and representative of the people too?—A. Yes, I suppose so.

Q. And if these people said that offal caused this typhoid fever would they be incorrect?—A. They would be simply under a misapprehension, what I wanted to say was that very little offal went up last year into this slough.

Q. But you are putting your opinion against the municipal authorities on this matter?—A. Oh, I would not say that.

Mr. Higgins.—I think you are rather too sweeping, Mr. Chairman, we have had medical authorities here.

Mr. Wilmot.—But to refer to the municipal authorities, I only mean as to whether this man's opinion should over-turn the whole of the opinions of the municipal authorities?

Mr. Higgins.—I think we must take a point, Mr. Chairman, when we go down there to stop off and see this slough.

Mr. Wilmot.—But they are not catching fish there now.

Mr. Higgins.—No, they are catching sewage now, an eminent medical man has been before us and he says the microbes were in this water and he left the place because he could not get water to drink.

Mr. Higgins.—It has been sworn before this Commission that large numbers of sockeye, lots of salmon have been thrown into the river, how long have you been at the Delta Cannery?—A. Seven years.

Q. Have you seen any thrown away?—A. No, not in large quantities, I have seen some.

Q. Have you seen any?—A. Yes, I have seen a few thrown off the wharf.

By Mr. Wilmot:

Q. Do you keep count of the fish that come into the Delta cannery?—A. Yes, sir.

Q. How many last year?—A. About 150,000.

Q. That was a short year?—A. Yes, sir.

Q. As many again came in the year before?—A. In 1890? No, I think not, not twice as many. To find out how many salmon are caught we simply take eleven times the number of cases packed.

Q. Well, how many cases were packed in 1890?—A. Between 15,000 and 16,000 I think, I am speaking entirely from memory and I may be a little off.

Q. What is the usual size of those fish?—A. In the good years they run smaller than in "off" years. In a good year, say 7 pounds, and in an "off" year probably a little more, 7½ to 8 pounds.

Q. How many cans are made from a fish as a rule?—A. Between 4 and 5.

Q. And what is done with the balance?—A. It was used for making oil last year.

Q. Is it not thrown away as offal?—A. It is thrown away as offal.

Q. How much do these cans hold?—A. Generally a pound.

Q. Is it possible to put 22 or 24 ounces in a can?—A. No, that is impossible.

By Mr. Higgins:

Q. Can you put 20 ounces in?—A. No, 18 may be put in.

By Mr. Wilmot:

Q. Is it usual to put 18 in?—A. No, they calculate to give good weight, in having a little more than the weight.

Q. Have you seen the boats fishing?—A. Yes.

Q. Do they keep one-third of the river clear when fishing?—A. No, I would not say they do.

Q. You have been a close observer in other matters, I thought you would take observation of that too?—A. I don't know as they left any part of the river vacant, they fish all over; immediately in front of Ladner's Landing they don't fish, because there is a bar there, and they don't fish on it.

By Mr. Higgins:

Q. How many members does the municipal council of Delta consist of?—A. Five and a Reeve.

Q. Six then—are there any legal men in that body?—A. No, I don't know of any.

Q. Now if six or sixty non-professional men expressed an opinion upon a scientific subject of which they know nothing, and two men whose life-long business has been to study this question upon which they speak, expressed a contrary opinion, whose opinion would you be likely to accept?—A. I would be likely to accept the opinion of the two.

Mr. Higgins.—So would I.

By Mr. Wilmot:

Q. Have you never heard that professional men often give direct evidence opposite to what others give?.—A. Professional men? Oh, yes.

Mr. Higgins.—The question is whether non-scientific evidence is to be taken or scientific evidence, it is not to be thought likely that any member of this Commission should take evidence from persons who know nothing about the matter in preference to men who have made a study of causes of diseases.

Mr. Wilmot (emphatically). I state equally that every scientific man who has been brought here states that the water gets contaminated by the offal going into it.

Mr. Armstrong.—Order, gentlemen.

Mr. Higgins.—Never mind, Mr. Armstrong, you have had a week of it, I have not been here.

By Mr. Higgins:

Q. Well, about the sockeye and lots of fish thrown away, did you ever see any "quinnat" thrown away?—A. No.

By Mr. Wilmot:

Q. And you are bookkeeper at the Delta cannery?—A. Yes, sir.

Mr. Wilmot.—That is all, sir; that is all I wanted to ask.

B. J. SHORT, a native of New Brunswick, four years in British Columbia, manager of the Lulu Island Canning Company, was duly sworn.

By Mr. Wilmot:

Q. Well sir, what have you got to say?—A. In regard to this fish offal, we had a case of typhoid fever at Steveston, and we used to see all cases of fever before the cannery started in the spring—the offal did not appear to have any injurious effect.

Q. Anything else, sir?—A. I never see any offal around the shores of the river in our part.

Q. Is it a fact that it is all shoved out of the canneries into the water?—A. Yes; I think so, certainly the offal goes into the water.

Q. Is it correct that fish will run from six to eight pounds?—A. Yes.

Q. Is it also correct you get about four and a half cans from it?—A. Yes; about twelve fish to the case, the case weigh about twenty-two or twenty-one ounces, can and all.

By Mr. Higgins:

Q. What would be the weight of the cans alone? Three or four ounces?—A. Yes: I suppose it will.

Q. Do they put more than a pound in a can?—A. Not much more.

By Mr. Wilmot:

Q. And the Lulu cannery is how far away from Ladner's Landing?—A. I think it is about six or eight miles, on the opposite side down the river—I think they call it six miles.

Q. You are a paid officer—manager?—A. No, a member of the firm.

Q. Do you receive any emolument for being manager?—A. No.

Q. All the emolument you get is a share of the profits?—A. Yes.

Q. Are you in and about the cannery during the season?—A. Yes.

Q. And you never saw any offal on the edges of the river?—A. No.

Q. Did you look specially for it?—A. No, I never look specially for it—oh, of course there may be some offal lying about, but I never noticed it.

By Mr. Higgins:

Q. Are there many scavenger fish around your cannery?—A. Yes, they are very thick.

Q. And when you throw it over—they go at it at once?—A. Yes.

By Mr. Armstrong:

Q. How deep is the water where offal is cast in?—A. We have a shoot and it goes in at about six or eight fathoms.

By Mr. Wilmot:

Q. Is your building built on piles?—A. Yes.

Q. And about 40 to 50 feet deep are they?—A. Yes, our piles are 50 to 60 feet.

By Mr. Armstrong:

Q. Was there any sickness there before your cannery came?—A. I don't know—it is possible.

By Mr Wilmot:

Q. How many boats had you?—A. We had twenty licenses.

Q. How many others did you employ besides the twenty?—A. Six or seven.

Q. And how many cases did you put up in '90?—A. We were a new cannery—about 10,000.

Q. And were those fish caught down on the sand heads?—A. Yes, down in the channel.

Q. Was fishing promiscuously done or was one-third of the channel kept open?—A. Oh, I think they fished promiscuously, but I suppose they do keep the channel open. I don't pay particular attention to that.

By Mr. Higgins:

Q. Is the health of your vicinity good?—A. Yes, during the summer I do not live there—I live in Vancouver.

By Mr. Wilmot:

Q. When is it not healthy?—A. Well, in the spring—that was when the cases of sickness were there.

Q. Any sickness in the fall?—A. I don't know whether there was or not—the cases I speak of were in the spring before we can at all—they were turning up the soil in laying out the town site.

Q. The fever was ploughed out from the ground?—A. Well, I suppose so.

By Mr. Higgins:

Q. What is your favourite beverage down at the cannery, Mr. Short?—A. Tea or water.

Q. Do your hands drink the water there?—A. Yes, they have nothing else.

Q. Do they dilute it?—A. Well, I don't know—I suppose some do.

Q. Do they boil it?—A. Well, not there—they do in some places.
Mr. Higgins.—Some water is not good at all unless boiled.
Mr. Wilmot.—Very good; that will do.

ROBERT MITCHELL, a native of Scotland, three years in British Columbia, a fisherman, and resident of Vancouver, was duly sworn.

By Mr. Wilmot:

Q. Now what do you want to say?—A. Well, I would like to get a license granted. I fished for Mr. Munn the year before last at Sea Islands Cannery—I was only paid 6½ cents, and I understand that some of those who had licenses was paid 20 cents.

Q. Did you apply for licenses?—A. Yes, sir.

Q. And why were you not given a license?—A. I don't know—I did not go to see, but some of the boys in the same house went. I went out to the sealing that year. Mr. Munn furnished me with a boat and net.

Q. Did any of your neighbours fish for Mr. Munn that had licenses of their own?—A. No, sir; not that I know of.

Q. Did you get same price as the rest?—A. Oh, yes; I understand I got the same price as the others who had not licenses.

Q. Then what would you gain if you had a license?—A. Well, I would get 20 cents if I had a license of my own; I think I would; 15 or 20.

Q. Not having a license you got but 6½?—A. 6½.

Q. Then your neighbour in the boat got 6½?—A. No; we only got half of that, 3¼ cents each.

Q. And others got 20?—A. Yes; Mr. Munn furnished the boat and net and gave us 6½ cents between the two of us.

By Mr. Higgins:

Q. And if you had furnished boat and net, what would you have got?—A. I think I would have got 20 cents if I had a license.

Q. Well, Mr. Munn furnished you with plant and gave you 6½ cents?—A. Yes.

Q. When did you fish for Mr. Munn?—A. The year before last.

Q. How many fish did you catch?—A. Near 6,000, I think.

Q. Would that be the average of boats?—A. Yes; for Mr. Munn's cannery, I think.

Q. Can you give an opinion as to effects of offal in the water?—A. Well, I don't enjoy the water very good, but it don't do my health any harm. Of course I would prefer the water on the up side of the cannery to that from the lower side.

Q. Why one side more than the other?—A. Because the offal from the cannery was effecting the water a little on the down side.

Q. Then your principal complaint is you would like a license?—A. Yes; and I think the Sunday should be closed.

Q. Oh, you think all Sunday should be kept as holiday?

By Mr. Higgins:

Q. Could you not keep it yourself and let the canneries break the Sabbath?—A. Well, I don't know as I could; being hired by the cannery and the cannery furnishing me with boat and nets. Of course I never did stay ashore. I always went out, but I did not like it. I don't know if Mr. Munn would care about it. If I had a license of my own I would not go out. I think the cannery would take the fish from me on Monday.

By Mr. Wilmot:

Q. Are there others like you who object to fish on Sunday?—A. Well, there are four that I know; they don't want to fish on Sunday.

Q. Then you say cannerymen rather hold out as a necessity that people they hire shall commence working at 6 o'clock?—A. No; I don't say that. I don't say the

cannerymen compel men to go to work on Sunday at 6 o'clock. I never staid ashore, but suppose I told them I would not go, they would probably tell me to go. I think if I staid ashore on Sunday night and the cannerymen asked me to go, I dare say they would tell me to go, I never asked Mr. Munn.

Q. And you think the law allowing fishing on Sunday corrupts the morals of some men?—A. Yes; I think so. I never like to go out myself. I think the close season might be made from 6 o'clock Saturday night to 12 o'clock Sunday.

By Mr. Armstrong:

Q. But what would cannerymen do with fish caught on Saturday?—A. Well, I don't know.

By Mr. Wilmot:

Q. It was changed to suit them, you know.—A. Well, I don't think it is changed right.

Q. Do you think every British subject should have a license?—A. I think every one who wants a license should get a license.

Q. Do you think it correct to sell licenses, so one man gets a license and sells it to you for a certain price, is that right?—A. No, sir; I do not think any man should get a license and sell it to another man; I don't think it is right.

Q. Did you ever fish in Scotland in the rivers there?—A. No, sir; I fished in Scotland in the deep-sea fishing.

Q. Were any inducements held out to you to come here to fish?—A. Yes; my brother was here, and he said it was a good place for fishing, and I came here.

Does your brother get a license?—A. No, sir.

By Mr. Armstrong:

Q. Is he a fisherman?—A. Yes, sir.

Q. You think that has a tendency to prevent people from coming here?—A. I do, because summer time is the proper time for fishing, and if you cannot get a license then, I don't see how you are going to do it.

Q. Then you think you should get a license, and that the close season should be extended to the whole Sunday?—A. Yes, sir.

Mr. Wilmot.—Very well; that will do.

THOMAS CAMPBELL, a native of Scotland, three years in British Columbia, a fisherman, and resident of Vancouver, was duly sworn.

By Mr. Wilmot:

Q. What have you got to state?—A. I have got to state that I put in the last two years for licenses and I could not get one.

Q. Was any cause assigned for this?—A. Well, I asked last year if any more were to be given out and he said there were five or six, but some others applied for them, and I asked him if they were fishermen and he said yes; they went to people calling themselves fishermen.

Q. Did you fish last year?—A. I fished on Sea Island cannery for Mr. Munn.

Q. How did you fish; on what terms?—A. Well, he gave me a boat and net and so much per fish.

Q. How much?—A. Six and a half cents.

Q. That is between you and your man?—A. Yes.

Q. What was current price to people fishing with licenses?—A. Of their own?

Mr. Wilmot.—Yes.—A. Twenty cents.

Q. Would you have got 20 cents if you had licenses of your own?—A. Yes; I think I would.

Q. How many boats fished for that cannery?—A. I cannot say.

Q. How many fish did you catch in your boat last year?—A. About 4,000.

Q. Was it a short year?—A. They called it a poor year.
Q. And yet you got 4,000 salmon?—A. Yes.

By Mr. Armstrong:

Q. Have you anything more?—A. No.
Mr. Armstrong.—Thank you; that will do.

JOHN BROWN, a native of Portugal, in British Columbia since 1858, a resident of Vancouver, a fisherman and boatmaker, describing himself as a British subject since the time of the first elections being held in British Columbia, was then duly sworn.

By Mr. Wilmot:

Q. Well, what is your complaint?—A. I want a fishing license.
Q. Have you ever had one?—A. I had one four years ago and have made application every year since but got no answer.
Q. Then your complaint wholly now is that you want a license?—A. Yes.
Q. Where do you want to fish?—A. On the Fraser River.
Q. Have other persons got licenses since you applied, any of your neighbours?—A. No, not my neighbours, but many applied 4 years ago and have got licenses, but I have not.
Q. Have you fished for canneries since?—A. No, I am getting too old to fish myself, but the canners get licenses and they don't fish them either.
Q. And you want a license as well as them?—A. Well, I could pull a boat anyway.
Q. Then your principal object is to get a license if you can?—A. Yes sir, that is what I want.
Mr. Armstrong.—That will do; thank you.

JOSEPH GOUSTAF, a native of Portugal, in British Columbia, since 1874 and a British subject by naturalization since 1892, a resident of Vancouver, and a fisherman, was duly sworn.

By Mr. Wilmot:

Q. What do you want?—A. Well, I have been fishing since I came in the country the biggest part of the time and I have made application for licenses for the last four years but could not get one.
Q. And is that the principal matter you wish to bring before this Commission?—A. Yes sir.
Q. Well sir, I don't know as we can do anything more for you than to record your name and that you want a license; would one be enough?—A. Yes, one will do very well.
Q. And you have been fishing on the river?—A. Yes, I have been fishing for Mr. Ewen and for Mr. Munn.

By Mr. Armstrong:

Q. Where do you fish in winter?—A. Well one winter I was sick, last winter I fished right here in Vancouver.

By Mr. Wilmot:

Q. What kind of fish do you catch?—A. Small fish of all kinds, smelts, herrings, etc.
Q. You fish with a seine?—A. Yes.
Q. What length of seine?—A. About 50 fathoms, something like that.
Q. What meshes in the bag?—A. An inch extension and $2\frac{1}{2}$ in the "wings."
Q. What length of bag?—A. $3\frac{1}{2}$ fathoms.

Q. And you catch a great number of small fish, don't you?—A. There used to be a great many, but now there are not so many, all we catch is small enough for the market.

Q. Do you ever get smaller than small enough for the market?—A. A few, but very few.

By Mr. Armstrong:

Q. And when you catch those very small fish you pull your seine ashore and pull all those small fish in don't you?—A. Well, sometimes the smaller ones go through, we cannot get them.

Q. Do they go through half inch mesh?—A. Oh yes, smelt will go through sometimes, smelt are very small fish.

Q. All along this coast is the same, you people, Portuguese, Italians, etc., fishing here all use the same small net you had in your own country, and you catch the same small fish of all kinds, young salmon and all kinds. A. Oh, some salmon come here but they never breed here, we never get young salmon.

Q. Well, but the point is that you catch a great many small fish which if let alone would become in a year or two fit for the market?—A. Well, we never can get the small ones anyway, they go through, we have to use this small mesh to catch the smelt, we cannot catch them any other way.

Q. You drag the net ashore with all the fish in it—do you pick out the big fish for market?—A. Yes.

Q. What do you do with the small ones?—A. Well, the little ones we let go if they are no use—sometimes we just throw the fish out and let them go.

Q. Do you think many live to get out?—A. Oh, yes; many of them.

Q. Well, the point is that these young fish are thrown on shore when you draw the seine and then they are left there to rot?—A. Well, let them prove it—but it was the oil factory ruined the fishery—not us.

Q. How did they do it?—A. Well, they threw in lots of refuse from the factory and it drove the fish away.

Q. What effect has it to throw refuse like this in?—A. Well, it spoils the fishing grounds and drives the fish away—he has quit that business now.

Mr. Higgins.—He is dead.

By Mr. Wilmot:

Q. And you think throwing in this offal destroys the fish?—A. Yes.

Mr. Armstrong.—Very well, that will do. After an interval of a few minutes and no witnesses coming forward——

Mr. Wilmot.—I judge the publicity of this meeting has been very general, because there has been a large audience all day and it appears there are none others to come forward.

Mr. Armstrong.—I move we adjourn to New Westminster, to Monday, at 8 a.m., or such time as the steamer will be ready to go down the river, so we may inspect the location of the canneries, etc.

Mr. Higgins.—Yes, all right.

Mr. Wilmot.—Very well—Monday morning at 8 a.m., but before adjourning, I wish to present a communication to the Board, which I have received from the Vancouver Board of Trade, which I will read, and then hand to our Secretary for incorporation in the Minutes of Proceedings.

VANCOUVER BOARD OF TRADE.

George E. Berteaux, President; W. F. Salsbury, Vice-President; A. H. B. Macgowan, Secretary.

VANCOUVER, B.C., March 11th, 1892.

To the Members of the Royal Fisheries Commission, Vancouver, B.C.

"GENTLEMEN,—At a meeting of the council of this Board held last evening, the following resolution was unanimously adopted, viz. :—

"*Whereas* the salmon fisheries are of great importance to the city and to the province in general, and

"*Whereas* in the markets of the world there is very keen competition with the Alaska and Columbia River fisheries in this business; and

"*Whereas* the consequence of any hindrance to the successful prosecution of these fisheries would result disastrously to the country.

"We, the council of the Vancouver Board of Trade, beg respectfully to submit to the members of the Royal Fisheries Commission, the following recommendations, viz. :—

"*Licenses.*

"1. That in view of the large amount of capital invested in the canning business and of the extensive preparations that have to be undertaken for the fishing season so long in advance of the actual commencement of operations, it is essential for the canners to be able to rely on having a certain fixed number of boats with which to prosecute their industry, and that this number should not be less than 25, which number should not be subject to change from year to year; also that for the northern canneries the number of licenses held by those canneries last year be not subject to reduction.

"*Offal.*

"2. That, whereas, we believe the disposal of the salmon offal in the Fraser River in deep water, is neither injurious to the health of the people nor to fish life, the canners be not required to do more than deposit it in deep water, as hampering regulations in this respect might act most prejudicially to the industry.

"*Close time.*

"3. That in view of the extremely short fishing season, the regulations as to weekly close time on Fraser River, remain as before, viz., from 6 a.m., on Saturday, to 6 p.m., on Sunday, by which arrangement practically no work is done on the Sabbath.

"*Hatchery.*

"4. That the hatchery is worthy of every support, and that it is desirable that inspectors be appointed to further investigate and report on the habits of salmon, especially in up country waters, and by marking fish to obtain closer information as to their movements.

"Commending these observations respectfully for your consideration,

"I have the honour to remain, gentlemen, your obedient servant,

(Sgd.) "A. H. B. MACGOWAN,
Secretary."

[Seal.]

Mr. PORT, of New Westminster, who had previously given evidence upon two occasions, then entered into an informal conversation with the Commissioners, the substance of his remarks and complaints being as follows :—

That the difficulty in connection with the interim licenses was that the number to be granted was too small.

Mr. MCNABB.—I have instructions that the granted number of licenses were not to be exceeded.

By Mr. Wilmot:

Q. How long is it since that order came?—A. About a fortnight ago.

Q. Oh, yes; that is, the old order will stand good until the new decision is reached. Only for the present the interim licenses will go on.

Mr. PORT.—But the final recommendation of the Commission should not interfere with work that is going on now.

Mr. MCNABB.—Mr. Port is interested in getting licenses for catching fish that are running now—these are the fish he wants. He wants to get ten licenses, and I told him I could not see my way to recommend that he should get ten, because I received word that they were all to be placed on a similar footing.

Mr. PORT.—Well, I may say I do not think the interim licenses should effect the number afterwards given—I have prepared ice and other things.

By Mr. Higgins:

Q. You were on the stand at New Westminster, Mr. Port?—A. Yes, sir.

Q. And it was stated that you sold fish to the canners?—A. That is not correctly stated, sir.

Mr. WILMOT.—The witness must have forgotten that he was on oath.

By Mr. Higgins:

Q. Well, I think we had it from others than fishermen?—A. Well, I have frequently sold surplus fish to the canneries.

Q. Did you freeze any fish last year?—A. Well, we don't intend to freeze any this year.

Q. What do you do with your licenses?—A. Well, we ship away to other places. You must remember we are handling large quantities of fish. I would like to see every deserving man get a license.

Q. Well, the opinion of the Commission was, I think, that you were at an advantage over other parties?—A. Now, on the basis of 1888, I can use the catch of 30 boats.

Q. I think the aim of the Commission should be that although you should not be at the mercy of individual fishermen, they should be placed so they are not at your mercy. I must say the way the license system has been conducted is simply scandalous.—A. Well, I had to have 10 licenses, and during the other part of the season I had to take salmon wherever I could get it. We export our fish nine-tenths of the time, but when we have a surplus of fish we sell them to the canneries.

Mr. WILMOT explained that the complaint made against Mr. Port was that during the sockeye run he sold his fish to the canneries whilst obtaining licenses as a freezer; also that he thought persons going into the freezing business should have a certain number of licenses and that his belief was, that in time the freezers would take the place of the canneries.

Mr. PORT.—I admit the situation as regards the licenses, and selling fish looks unfavourable for the freezers.

A party in the audience here stated that the fresh fish dealers in Vancouver had been looking to Mr. Port and Mr. Vienna for their supplies of fish, and if licenses were denied them (Port and Vienna) they would have to be given in some other way.

The CHAIRMAN declared the Commission adjourned at 4.35 p.m., to meet again in New Westminster at 8 a.m., on Monday, 14th March, for the purpose of proceeding down the Fraser River, by steamer, to inspect the location of the canneries, Cohiluthan Slough, etc.

NEW WESTMINSTER, B.C., 14th March, 1892.

The Commission met on board the steamer "Robert Dunsmuir" at 8 a.m.

Present: S. Wilmot, Esq., Chairman; Hon. D. W. Higgins, Mr. Sheriff Armstrong, Mr. Charles F. Winter, Secretary.

At 9.10 a.m., the steamer got under weigh and proceeded down river by the south or main channel, the morning was bright and sunshiny, but the air was extremely cold and penetrating with a slight breeze from the sea.

Passing the various canneries the downward portion of the trip extended to the lighthouse out in the mouth of the river, where a turn was made and the home trip commenced. At Ladner's Landing a stop was made for dinner and for the purpose of the Commissioners inspecting Cohiluthan Slough. The Commissioners inspected the Slough at its mouth at the "Delta" cannery about 1.30 p.m. Slough here about 20 yards wide at high water and but a mere streak when tide is out. Water at time of visit was of the colour of porter, and when dipped up in a glass tumbler looked like cold tea. The Slough looks like a big ditch with high, soft, muddy banks, and the water appeared stationary, it being near flood tide. To the taste the water did not appear to be so very disagreeable, though the eye was repelled by its appearance and the place from which it came; a flavour of decaying wood and vegetable matter was perceptible. The soil about the banks had a peaty appearance and water trickling into the slough was discoloured. The Commissioners took vehicles at Ladner's Landing and proceeded along the slough to the top dam about 2 miles from the "Delta" cannery—about ¾ of a mile up the main dam was passed, and where much complaint had been made of offal lodging, etc., and of it being backed up by the tide to this point. The banks here were also soft mud, surmounted by a fringe of small brush and wild grass. The Commissioners were accompanied by Messrs. Thomas and W. H. Ladner, and Mr. D. J. Munn, who kindly pointed out the various points of interest and explained the question of offal in the slough from their different points of view. At the head of the slough the party met Mr. Arthur and Mr. E. S. Brown, farmers of the neighbourhood, and the former of whom had appeared before the Commission and giving evidence at Westminster. These gentlemen explained the deposit of offal at the head of the slough and the pernicious effects such had upon the surroundings and with much warmth reiterated their assertions that it was most injurious to the health of the community and particularly harmful to cattle in that the slough was the only place from which they could obtain water for the stock. Both Messrs. Arthur and Brown stated that in summer the stench of decaying offal floated up by the tide to the head of the slough and then left on the grass and bushes as the water retired, was something awful and that fish heads, guts, tails, etc., could be taken out in barrow loads quite plentifully. On return from inspecting the slough, Mr. Higgins left for Victoria by steamer "Princess Louise" at 3 p.m.

The "Dunsmuir" with Commissioners Wilmot and Armstrong, accompanied by the Secretary, left Ladner's Landing for Westminster at 4.15 p.m. Before leaving, the Commissioners visited the "Delta" cannery, this is one of the old canneries and of course not being in the season, everything was in a condition of winter quarters; the building is partly constructed upon piles overhanging the water, with a swift current and some twelve feet of water at the outside.

The next cannery visited was the "Standard," Laidlaw & Co., but as it was closed up, the party did not land but viewed the surroundings from the steamer. This cannery is a large new building, said to have been erected by the owners at a cost of about $9,000 for the purpose of obtaining twenty additional licenses. It has a frontage of about 200 feet, and is built entirely upon piles with the water all the way under. Water at the edge of pier said to be about fifteen feet and the current strong.

The Commissioners next disembarked at Mr. Ewen's cannery or rather canneries, for there are two large ones alongside each other. Mr. Ewen has the largest and finest equipped establisment on the Fraser River, and is capable of putting up 2,000 cases of salmon a day. The canneries are built partly on a small island near the west bank of the channel and partly on piles overhanging the water—a current of about six miles an hour runs here, and the water at the dock is about fourteen feet deep. The new building which was put up to obtain the twenty additional licenses when all canneries were limited to twenty each, is 160 by 80 feet and cost $16,000. The party were shown throughout the buildings and all details explained by the caretaker and Mr. Munn, to the latter of whom the party were indebted for much valuable information on technical matters and small details.

Empty cases (wooden) cost 16 cents each, tins cost $1.00 a case of 48 cans, and the buildings and material are insured for 2 per cent. In the new building, 8,000 cases of new empty tins presented quite a formidable array.

The Commissioners and party reached New Westminster, at 6.10 p.m.

The following information *re* catches by boats was tendered by the book-keeper of the "Delta" cannery at Ladner's Landing:—(extracted from the books of the establishment in the presence of the Secretary of the Commission).

1891.—From 1st July to 20th July, boats took less than 20 a day; on 2nd July boats begin to take over 100 fish a day; on 24th July, 192 is highest; at the end of July, average about 90 to the boat, but in the beginning of August the takes are larger, thus:—On August 1st, one boat takes 274 salmon; on August 2nd one boat takes 300 and 368 salmon; on August 3rd one boat takes 418 and 438 salmon; on the 6th August one boat gets 605 fish.

Then by the end of August they average 200 and 300. And the total fish for the season was in 1891, with thirty-five boats, 140,080 fish, and in 1889, with thirty-two boats, 331,676 fish.

The following written statement was submitted to Mr. Wilmot by Mr. C. Stanley, of Guichon's Landing, and was ordered to be incorporated in the minutes of the Commission:—

"Guichon's Landing, March 4th, 1892.

"*To Mr. Wilmot:*

"Sir,—In giving evidence at the Commission, I did not know the cannerymen were wanting more licenses, as I had just come up from Guichon's Landing at the time, last Saturday, 27th February, and did not know anything about it, and could hardly believe it when I was told some wanted 25, others more, and not being a good speaker, I forgot lots I would like to say on account of forgetfulness on my part. I therefore write you a little of my experience on this river, and could say much more about canneries, but I think this is sufficient. I will take oath any time to any part of it, or all, if there is any doubt about it. I have no malice against cannerymen; I only write what is true and strictly true at that.

"(Signed), CHARLES STANLEY."

The following enclosures accompanied the above communication:—

"In regard to licenses on the Fraser River at the present time, and in previous years, they have been issued unfairly and in an indifferent manner, especially towards the fishermen, who are granted 150 licenses; because the Indians and fish markets take licenses out of that number, also the Port Haney fishery, with seven licenses, that a canneryman bought up last year; also Mr. Port's and Dutch Bill's licenses were turned over to cannerymen in the sockeye run, and I am told Mr. Max Mowat had 10 licenses to himself last year. If there is to be a limit to licenses, I think 600 is enough and no more—give 300 to cannerymen and 300 to fishermen, instead of 500 for the Fraser River—any more than that number is not required. They could be divided in different ways, say 300 to canneries, 250 to fishermen, 50 to Indians. At present the canneries have 20 licenses apiece, that is too many, and more so in the large runs of fish, from six to eight boats will catch all the fish wanted; the others lying idle in a big run. I myself ran a camp of Indians for a canneryman in 1889; big run; and only eight or ten boats' fish were wanted to supply the cannery. The Indians were taken and put to work in the cannery when they were stopped fishing; in fact the cannery then had too much fish and threw them away into the river, I myself throwing over two scow loads at the camp, all rotten fish. In 1890, I ran a camp of Indians for Ben Young, Canoe Pass, in sockeye run, and there saw fish destroyed by wholesale, also a large ship load from the American side (Point Roberts) thrown overboard. He could not can them, although they were all paid for; in fact he knew, like all the others, that he could not can them, for his cannery was overloaded at the time they were caught and before. The excessive waste and indifference in previous years has been as great, in fact more so, for they have done as they pleased, and as I have had eighteen years experience at salmon fishing for myself and running of Indians and whitemen, I can justly say twenty licenses are too many for any cannery on the Fraser River, no matter whether the runs are large or small, and the fish markets being granted ten licenses is a shame and a wrong to the fishermen—they can-

not use the fish, therefore turn these licenses over to the cannerymen—the canneryman perhaps making them a present of one or two of their own licenses to get them—from two or four licenses is plenty for any market, and they should be made not transferable, and all fishermen one license apiece, to be made not transferable, to prevent selling of licenses to other men, and by those means men who are not fishermen will not apply for them—the Inspector to have power in case of sickness to allow men to fish, providing the fishermen cannot fish it himself. Fishermen who are not British subjects to have no license. In regard to some men who have licenses, I think they can do well without them—I mean men who have fine farms—from 160 to 600 acres of land—and others who are employed at the canneries at all around yearly wages, and who don't fish in any run of fish except the sockeye run for the cannery they work for. The canneries could get along well—taking one year with another, big run and small run—with from ten to fifteen licenses. In big runs that is too many—any more than that number would hurt the free fishermen. I hear the Indian Agent wants 100 licenses—I consider fifty licenses is enough—in fact none at all is more like it, for they are wards of the Government which gives them farming implements of all kinds—they have fine farms, and are helped by the Government—they can fish all the year round for themselves, and also pay no taxes, they were here before we came but let them use their ways of fishing and not the whiteman's invention, thereby underselling the whitemen. If allowed that privilege the same as whitemen, let them pay taxes, have votes, etc. We are taxed $2 road tax and $3 provincial tax, and $20 for a license—fancy $25 to go to work — just for the privilege of working one year. A large majority of Indians will not work contract, but demand days' wages, although the cannerymen would like to see the Indians get licenses, for as they say 'we can control the Indian but not the whitemen.' The Indians don't know enough, but the whiteman knows too much—no wonder they want twenty five licenses, they could do without us all, and in big years not half those licenses would they want. They told the Government in 1887 and 1888, by unlimited fishing the result on the Fraser would be similar to the Columbia, and now they say 1,000 licenses would not hurt the river, but give them twenty-five licenses and the fishermen all they want—what selfishness—what are the fishermen going to do with all the licenses they want? Why they could not sell their fish, because Mr. canneryman has twenty-five and too well the canneryman knows it. Last year a cannery fished for spring salmon and sold them to the fish market thinking he would get the fish market licenses, but got left. These capitalists should be brought to time, for as long as sufficient salmon and good returns, never mind the excessive waste—'let us have those licenses' they cry—Don't interfere with us,' 'don't force us to recognize anything,' and then we private monopolies can laugh, grow rich and look on everything with enmity and contempt—by wealth and cunning we can win the means of luxury—never mind the fishermen, they are weak and ignorant—such is the difference, they would have people think. The inequality in the possessions of individuals means crime and all sorts of misdemeanours the world over—want tempts the poor, and to preserve former gains tempts the rich—reduce these licenses and give fishermen a show on all rivers in British Columbia—it will prove successful, cause a larger distribution of money, and it will be circulating among the many instead of these few capitalists and agents who want it all, in fact, would take the world, if they could get it—that stops them.

Offal.

"In regard to offal thrown into the river it is most injurious and causes sickness—I myself have been sick drinking river water. I know people on the Delta flats say they had been sick through offal thrown into the river, not only offal but rotten fish, and those swell-heads the canneries throw into the river at night. A swell-head is a rotten can of salmon unfit for market, perfectly rotten. The Chinaman takes a soldering iron knocks a hole in the can so that it will be sure to sink, the stench would knock a nigger backwards let alone a white man—thrown overboard at night as well as other garbage, all offal floats more or less, except the swell-heads, in eddies and creeks, sloughs, dyke ditches, etc., and cause a most obnoxious smell and sickness. It floats up and down with the tides, some gets on the land, some hangs around the sloughs, etc., a pes-

tilent mass of rottenness—the water unfit to drink—you must go a good distance in a boat from the banks to get a bucket of water. A law should be passed making the cannerymen tow everything in the shape of offal outside to the Gulf of Georgia and there dump it into deep salt water and not be allowed to dump it in fresh water at all. It gets into our nets and makes them slimey and is very nasty to get out, and I have no doubt the salmon don't like it, for if it makes man sick surely it makes salmon sick."

Close Seasons.

"Except that the licenses are not issued early enough in the spring, say by the 10th of March, and not later, for sockeye salmon, one week longer would do no harm, the close season the canners don't trouble about as long as they get enough sockeye, even then if they do fish for them, they say they are no good—there should be no close season on them."

Nets.

"The fishermen use a $7\frac{7}{8}$ and 8 inch mesh for spring salmon during March and April, 50 meshes deep. When the river rises about May, they cut these nets down to 30, 35, and 40 meshes to fish along the bars and banks of the river. A 50 mesh net can only be used early in the spring and then in deep water and only on slack water, high and low slacks. For sockeye $5\frac{7}{8}$ and 6 inch mesh, the majority of nets 40 meshes deep, some 30 and 35, very few 50 mesh, the majority of nets used at the mouth of the river are 35 and 30 meshes deep, and I do not think that nets at the mouth and as far out as the sand banks do any harm, there being lots of room for the fish to escape, most all the fishing there is done on tides, high and low slack, whereas up river they fish day and night never giving the fish a show to escape. There is a good 12 to 14 miles of fishing ground on high slacks in length and about 5 miles wide, so fish get more show to escape than anywhere on the river."

Hatchery.

"The hatchery is doing good and more hatcheries should be put up, and I would like to hear of them hatching out more red salmon. I have taken sockeyes that had their tails clipt in oval shape; they were fine large fish; one weighed 12 pounds; I sent its tail to the inspector in New Westminster. I always believe salmon return again to their own rivers. Trout on Harrison River and lake destroy lots of salmon ova and eat young salmon. The sockeye themselves are a very voracious fish. When fighting they destroy spawn, but do not eat it; they disturb it, and it floats to the top of the water and floats away. I have fished on Harrison River and lake and watched them doing it. Saw-dust is very bad for salmon; more to young fish."

Oil Factory.

"I believe if some one with experience, he could make it pay. The oil factory on the river at present is a small concern, and in a big year one or two canneries could supply it. With dryers and retorts for retorting the oil they could get away with much more and after retorting it and refining it they could find a market. I have worked around herring factories where they retorted the oil, then refined it, and the gurry that was left was used as a fertilizer after it went through a drying process, and it was a success. I have seined a good deal for herring in the winter time; also for the factory that was near Vancouver, but the herring failed and came less every year; the supposed cause was throwing the offal into the inlet in previous years, before Mr. Spratt built his fishery."

Seining for Salmon.

"Seining for salmon should be stopped everywhere, in river, harbour, bay, creek, or anywhere a seine can be used; it is a most destructive net; it takes everything it comes across, both little and big, destroying lots of young and small fish. I have seined both for salmon and herring, and know that for salmon it is most destructive.

"Sir, in my mention of the swell-heads thrown from canneries, I think about 200 cases to a cannery would be the most thrown away ; of course some more, some less ; it is rotten fish ; and in 1889 the Harlock Packing Co. was the company I ran a camp for in the sockeye run, and I will take oath any time that ten licenses will run a cannery in full blast. In the two big years, even last year, the canneries at the mouth of the river could only just struggle through, in fact refused fish and would buy none ; in fact there are some canneries who could not take seven or eight boats' fish and keep their wharves clear.

"Foreigners, such as Austrians, Italians, Greeks, etc., should be made to prove they have resided in the country the required time before getting citizens' papers, as a number come from the Puget Sound ports to fish here in the spring and sockeye runs, and then go back and become United States citizens, so that they can fish on Puget Sound.

"I am, sir, your obedient servant,
"(Signed), CHARLES STANLEY,
"Quichon's Landing, Fraser River."

The following memorandum was submitted by Mr. John McNabb, Inspector of Fisheries for the province of British Columbia :—

Memo. for consideration of the British Columbia Salmon Fishery Commission.

The following suggestions are respectfully submitted :—

"1. That the weekly close time on all rivers in British Columbia, with the exception of the Fraser, be from 3 p.m., on Saturday to 3 a.m., on the following Monday. Reasons :—A very large majority of the fishermen are Indians who object, and in fact refuse to labour on Sunday, and as it would not prove detrimental to the interest of the cannerymen or any one else to make the change, the religious convictions of the Indians should be respected."

"2. The close time for trout at present is from the 15th of October to the 15th of March. I beg to suggest that it be changed so as to read from the 1st day of October to the 15th day of February. Reasons :—Before the 15th of October the trout are ripe and in many streams have deposited their spawn, whereas in February they are in fairly good condition and are in demand for local consumption, other kinds of fish then being scarce."

"3. That from the 1st to the 25th day of September, both days inclusive, all net fishing be disallowed on the Fraser River. Reasons :—After the 1st September, sockeye salmon are unfit for food, and should have an unobstructed run to their spawning places, after the 25th September, the cohoes, or silver salmon, are running in numbers and are in demand for salting and market purposes.

"4. That the manufacture of oil as an article of commerce, from herring be disallowed in British Columbia. Reasons :—Herring are valuable as food fish, they are sold in large quantities in the markets of Victoria, Nanaimo, Vancouver, and New Westminster, and are highly prized as food by settlers on the coasts and Islands of the province, and also by the Indian population. They are also the principal bait fish of our waters. Destroying them in immense quantities for oil is a useless waste, as the dog-fish on the coast which are very destructive to all other kinds of fish, are sufficiently numerous to supply all the oil for which a market can be found at present.

(Signed,) JOHN MCNABB.

Memo. for Information of Commissioners.

List of salmon canneries owned and operated on the Fraser River during the season of 1891, by the Anglo-British Columbia Canning Company, of London, England. Bell-Irving and Patterson, Agents, Vancouver and Westminster."

"British Columbia," "Wadham's," "British American," "Canoe Pass," "Phœnix," "Britannia," "Garry Point," "Annandale," and "Dunfries." Licenses issued for season of 1891, 20 boats and gill nets each.

Schedule of Fresh Salmon Dealers who have applied for licenses for season of 1892.

"E. W. Port & Co., Wm. Vianan, James Wise, J. E. Lord, Boutilier & Co., Neilson Bros., Port Haney Freezing Co., C. F. Petty & Co., Wright Bros. (9.) 24 canneries have also applied."

This closes the proceedings of the Commission so far as the public were concerned. But on the 19th March the Commissioners met in New Westminster to draw up a report. The minutes of which meeting and the conclusions arrived at are as follows :—

NEW WESTMINSTER, B.C., 19th March, 1892.

The Commission assembled at 1 p.m., in the parlour of the Colonial Hotel.

Present : Mr. S. Wilmot, in the Chair ; Hon. D. W. Higgins, Sheriff W. J. Armstrong, and Secretary C. F. Winter.

Mr. Wilmot read the following communication, which was transferred to the Secretary for record :—

"NEW WESTMINSTER, B.C., 18th March, '92.

"SAMUEL WILMOT, Esq.,
Chairman, Fisheries Commission.

"DEAR SIR,—We beg to direct your attention to the fact that the dam in connection with the Dominion hatchery is located upon Section 7, B, 5, N.R. 1 W. Mr. Alex. Miller, the present owner of the property wishes us to notify you that unless the Government is prepared to purchase the property the dam must be removed forthwith. Kindly advise us of your intentions in the matter, and oblige.

"Yours respectfully,
"(Sd.) RAND & MILLER,
"*Real Estate Agents.*"

Mr. WILMOT.—Well, gentlemen ; I suppose we are ready for business. It is scarcely necessary for me to say, gentlemen, that what we do here to-day will be perfectly private and whatever conclusions we come to will be submitted to the Minister at Ottawa, and it will be for him to say whether they shall be made public or not.

Mr. HIGGINS.—Oh, yes ; keep it perfectly private—give nothing to the press at all. Now I think we might take up first the points on which we can agree at once.

Mr. WILMOT.—Well, I may say gentlemen, that yesterday I drew up a memorandum of matters here.

Mr. HIGGINS.—Oh, by the way, may I ask if you will receive an affidavit as evidence ? A man named Cassidy came to me and asked to put in an affidavit as evidence.

Mr. WILMOT.—Oh, yes ; we have his evidence—it was handed in the other day and I gave it to the Secretary to insert upon the Minutes. There have been one or two others also, and we have placed them upon record. Well, first of all gentlemen, if you will permit me, I will just read over the conclusions I have come to.

(Mr. Wilmot here read over his recommendations which are detailed further on.)

Mr. ARMSTRONG.—Well, put in another paragraph that they shall not be allowed to destroy the dog-fish for the liver only. If they want to make oil from the fish, let them use the whole fish. You see, they kill the dog-fish just for the liver and throw the rest on the bank and let it lay there. There is just as much oil in the body and it does not require machinery to take it out.

Mr. WILMOT.—Very well, we will put that down. Now, are there any other questions that you gentlemen would like to place upon the list, and we can discuss them specially afterwards ?

Mr. HIGGINS.—Perhaps you make a paragraph of that (handing in letter) in regard to that train of guano and eau-de-cologne ?

UNION CLUB, VICTORIA, B.C., 3rd March, 1892.

"MY DEAR Mr. HIGGINS,—Being much interested in the proceedings of the Fishery Commission now going on, and hearing from friend Rithet that you control the running of the car-load of eau de cologne necessary for the peaceable transportation of the Fraser River offal from the salmon canned, I hope you will not overlook an old friend anxious to carry that car-load of eau-de cologne, when shipped.

Yours very truly,
(Sd.) D. J. BROWN.

Mr. Higgins.—Then here is an analysis of that water at Cohiluthan Slough, that I took down the other day. I had it analyzed in Victoria by the Government Analyst, a very clever fellow :—

Analysis of Water.

"Had a brown colour and unpleasant smell, re-action neutral.

Total solid residue	143	grains per gal.
Solid inorganic matter	49	"
Solid organic matter	94	"
London Thames Companies	18·5	total solids per gal.
Manchester water supply	4·7	"
Glasgow, Loch Katrine	2·3	"
Sample of sewage	55·0	"
Chlorine existing as sodium chloride	31	grains per gal.
London Thames Companies	1·2	"
Tunbridge Wells	3·7	"
Sample of sewage	9·9	"
"	11·5	"
Free Ammonia representing principally vegetable organic matter	40	parts per mil.
Albuminoid Ammonia (animal matter)	90	"

	Free Ammonia.	Alb. Ammonia.
West Middlesex Water Co	·01	·07
Grand Junction Co	·01	·08
East London Co	·03	·09
Sample of sewage	16·20	·90
Harrowgate sewage	55·00	3·00

A slight examination under the microscope did not show any living organisms only occasional jelly like masses. As shown by the analysis the water is very bad, but whether it would be the cause of disease or not could be better shown by a careful microscopic examination.

(Signed,) H. Carmichael,
Analyst for B. C.

Mr. Wilmot.—Well, gentlemen, that goes through all correspondence I have received on the fisheries question during the last few days. Now, whatever matter you wish to take up first?

Mr. Armstrong.—Oh, take up the first item.

Mr. Higgins.—Yes, take them seriatim.

Mr. Wilmot.—Then you think these clauses cover the ground generally?

Mr. Armstrong.—Yes, oh yes, if there are others we can add them.

Mr. Wilmot.—Well, then, the first clause is :—

1. That each canning establishment actually carrying on the canning industry shall be entitled to receive eighteen (18) boat licenses to fish as its maximum number, and that the fee payable for each such license shall be $20.

(Continuing,) Now, I think a cannery getting licenses should be in actual operation. Suppose a man puts up a shell and does not work it but simply puts it up in order to get a certain number of licenses, he has an advantage over other parties, don't you think? It strikes me from the evidence and from what we hear from many canners that it was very unfair. The only man it would effect I fancy would be Mr. Ewen.

Mr. Higgins.—Did he not work the new one?

Mr. Wilmot.—Oh no, not at all. It is a fine building and with all conveniences but he has not set it going. Now, if we say that he, or any person situated like him shall get so many licenses for a non-working establishment, it gives him a certain advantage over others, therefore I put in the clause "canneries in actual operation" Mr. Higgins.

Mr. Higgins.—Yes.

Mr. Wilmot.—Do you think it is correct in the main?

Mr. Higgins.—Well, I think it is if we don't cut the licenses down too short so as to put the canners at the mercy of the fishermen.

Mr. Wilmot.—Then there is another point to take into consideration this year—with the larger number of licenses given to the fishermen, the canners will be supplied with more fish than they ever had before. There will be four or five times the number of fishermen working than ever before, you know.

Mr. Higgins.—Yes, but as long as they don't be able to say you must pay so much for the fish.

Mr. Wilmot.—Oh, yes; but as long as the canners get a certain number they cannot be combined against.

Mr. Armstrong.—And don't you think if canners could get licenses for a non-working cannery, a man could put up many such and have an entire monopoly. Then you remember Mr. Johnston was very much opposed to it—I think they should be in actual operation.

Mr. Wilmot.—Yes, in actual operation—it is a matter between the canners solely. If they want to run the second establishment why they must just get their fish from the contractors, but I am satisfied this year they will have all the fish they want to work with. And also I think the fish will be reduced in value too.

Mr. Higgins.—Yes, and afterwards it will regulate itself—I think after this year fish will be very cheap. But how many licenses are you going to give?

Mr. Wilmot.—Ah, that is the question. Now, Mr. Johnston's evidence is very important on that point—his evidence was put in writing after giving his evidence in Victoria—I will just read from it:—

"For the information of the Commissioners, I beg to state in reply to the question which was addressed to me, viz.:—'How many salmon were used for canning purposes and how many cases were packed with same at the Fraser River Cannery, Deas' Island, last season? that 80,745 salmon (sockeye) were supplied to the cannery and were used in packing 7,137 cases of 48 lb. tins each, being an average of $11\frac{22}{71}$ fish per case. A tin nominally 1 lb. contains more than a pound of fish—about $1\frac{7}{2}$ oz. as an average."

Well, now, taking that as data, gentlemen, I find that fifteen boats will produce the amount represented, at a catch of 5,000 fish to a boat, which I think is about a fair average. The canners ask for twenty five licenses, and here a man in his own calculation makes fifteen boats do it. Some say ten but I think that altogether out of the quest on. Now, taking everything into account, with the increased number of boats to be fished, I think twenty-five out of the question—ten I think too low—they should get a sufficient number to allow of them being fairly well supplied.

Mr. Higgins.—Well, perhaps some of these canneries might not use them—they might keep them as a reserve check—now, you should place enough licenses in their hands to be protected—I think they should get twenty five—I want to see them protected and also the fishermen protected.

Mr. Wilmot.—Well, what is your opinion, Mr. Armstrong? I could hardly agree with you, Mr. Higgins.

Mr. Armstrong.—Well, I have been thinking this matter over a good deal and have been talking with many people about it. Some say some years ten boats will catch all they can handle—then in a poor year fifteen will get enough and twenty will leave the canneries entirely independent of fishermen altogether. I don't want to see the fishermen entirely deprived of the means of selling their fish and so I think the figure should be placed somewhere between fifteen and twenty.

Mr. Higgins.—Well, but in a bad year they want more than their own boats—they often use more than their own boats—they should get a number so as to keep them not at the mercy of the fishermen.

Mr. Armstrong.—Well, if you give them ten they would not be at the mercy of the fishermen.

Mr. Higgins.—Oh, well, but that would not do in a bad year; they would be at the mercy of the fishermen.

Mr. WILMOT.—Well, but what makes me think 25 too many is that when the canners were in Ottawa they asked for 20, now they ask for more; perhaps next year 25 will not be enough.

Mr. ARMSTRONG.—Well, we should look at it from all sides and I certainly think we should protect the fishermen; if we give the canners all the licenses they want they have no use at all for the fishermen.

Mr. HIGGINS.—Well, I think 25 licenses a fair number.

Mr. WILMOT.—And you say, Mr. Armstrong, between 15 and 20?

Mr. ARMSTRONG.—Yes.

Mr. WILMOT.—Well, there is quite a difference between you.

Mr. HIGGINS.—Well, what do you say yourself?

Mr. WILMOT.—Well, I will say 18—divide the matter up—18 licenses to be given to the canners. In this way we are only reducing them two from what they had before, and then the greater number of fishermen will enable them to get all the fish they want. It does not matter to me personally whether they get 15 or 50, but looking at it from a public stand-point, I think the fishermen should be thought of. I would not like to say the canners should get many less than they have had before, but these fishermen are all paying their $20, and they should have a fair opportunity.

Mr. HIGGINS.—Well, call it 20 licenses and I will call it unanimous; I don't want to see this important industry put down.

Mr. ARMSTRONG.—We don't want to effect it at all.

Mr. HIGGINS.—What do you say, Mr. Wilmot?

Mr. WILMOT.—Well, I could not go beyond 18.

Mr. HIGGINS.—Well, we will divide on the question. I cannot agree to curtail one of the most important industries we have here; I say 25.

Mr. ARMSTRONG.—I say 18.

Mr. WILMOT.—I say 18.

Mr. ARMSTRONG.—And that number is more than any fisherman gave in his evidence as fair for them.

Mr. HIGGINS.—I don't see what the fishermen have to do with it. They are like trade associations everywhere; they have no sympathy with capital at all, while capital feeds them.

Mr. WILMOT.—Very well then now. For the section with 18 boats—Messrs. Armstrong and Wilmot. Nay—Mr. Higgins, who requires 25 licenses. Now, for the second section.

Mr. WILMOT.—2. That each freezing establishment, actually engaged in the freezing and exporting of fish, shall be entitled to obtain not exceeding seven (7) licenses, and that the fee for each license shall be $20. (Continuing.) Now, I understand that Port and others calling themselves freezers got 30 licenses, or were working 30 boats. Now, I don't think he is a freezer at all, but this section has to do with men putting up large establishments for freezing fish and shipping them east, and I think the business should be encouraged. There is only one person here engaged in the business that I know of, or perhaps two.

Mr. ARMSTRONG.—Well, the same thing applies to them as to canners, for if you give them all the boats they want they will not buy any fish from the fishermen.

Mr. WILMOT.—Well, if I remember rightly, Mr. Armstrong, when we were at the establishment the other day that man said he did not care much about the licenses, as he could get all the fish he wanted. But, I think, as they were going to establish similar establishments on the Skeena, they should get a certain number of licenses.

Mr. ARMSTRONG.—Well, you might put it in this way, for each thoroughly equipped freezing establishment with a capacity of so much, or something of that kind, for he might say he was going to build at Skeena, Point Haney, and other places, and he might get so many licenses, and then not put the establishments up at all.

Mr. HIGGINS.—How many would you give each freezer?

Mr. WILMOT.—Suppose we gave them eight licenses?

Mr. ARMSTRONG.—That is too much in proportion to what you have given the canners. They don't send forward as much fish as canners, and I think if you give them six or seven it would be all they want.

Mr. WILMOT.—Yes; but you must not confound the man who gets his fish and simply ships them in ice with the real freezer. One has simply to have but a mere shell of a building, if he so likes, while the other has to have air-lined walls, manufacture his ice, etc.; it is a very different matter.

Mr. HIGGINS.—Well, but we are talking now of the man who builds a proper freezer?

Mr. WILMOT.—Yes; persons actually engaged in freezing and exporting fish; what number would you say, Mr. Higgins?

Mr. HIGGINS.—Say seven, but do not let them sell their fish to the canners.

Mr. ARMSTRONG.—Yes; say seven licenses.

Mr. WILMOT.—Very well; we will insert seven in the section and call it unanimous.

Mr. WILMOT.—Now, Section 3.

3. That each establishment engaged in the actual business of shipping or exporting fish in ice, or otherwise, but not in the manner of freezing or canning, shall be entitled to obtain not exceeding three (3) licenses, at a fee of $20 each license.

(Continuing). These are persons shipping fish in loose ice. The expense of putting up a place for carrying on this business is very small compared with the other. Now what do you gentlemen suggest?

Mr. ARMSTRONG.—Well, you suggested the other, what do you say?

Mr. WILMOT.—I would say 4.

Mr. HIGGINS.—I say 3.

Mr. ARMSTRONG.—I say 3, I want to encourage our fishermen.

Mr. WILMOT.—Very well, we will make it unanimous, 3 licenses.

4. That each and every local trader or dealer in fish for home consumption, in cities, towns, or country, actually engaged in such traffic, shall be entitled to obtain not exceeding two (2) licenses at a fee of $20, each license.

Mr. WILMOT.—Now this is for persons who have a shop or market, they do not export or freeze fish nor do they fish themselves, but they may have boats.

Mr. ARMSTRONG.—2 boats are enough to supply a market.

Mr. WILMOT.—Do you all say 2?

Mr. HIGGINS.—These are traders in cities, towns, or country?

Mr. WILMOT.—Yes.

Mr. HIGGINS.—Very well, 2 licenses.

Mr. WILMOT.—Well, unanimously 2 licenses.

5. That all bona fide fishermen being British subjects and actual residents of the province shall be entitled to obtain one (1) license to fish, upon payment of the sum of $20 for such license.

Mr. WILMOT.—I think that is unanimous, one license to all.

Mr. HIGGINS.—I would make the fee less, say $15.

Mr. WILMOT.—Oh well, it has been $20, I do not think it would do to lessen it.

Mr. HIGGINS.—Very well, leave it at $20, but those poor fishermen of whom you are so considerate, is it not a high figure for them.

Mr. ARMSTRONG.—Oh, yes, but it has been $20, leave it at $20.

Mr. WILMOT.—Very well, that is unanimous then, $20.

6. That every actual resident settler (with his family residing with him), shall be entitled to obtain one (1) license to fish, upon payment of $2 for the same, and shall be permitted to fish in any of the waters of British Columbia, except in any prescribed limits at the mouths of rivers or streams, or during the close times, every such settler shall be a British subject and such license will only permit of fishing for family use, but not for sale or barter.

Mr. HIGGINS.—Well, I think, although the fee is only $2 you might make it less, I think a man should be able to fish in front of his own land.

Mr. WILMOT.—Oh well, it is simply a regulation, the fee is made small and is simply to control them, in fact they ask for it themselves.

Mr. HIGGINS.—Well, I would strike out the part about the family.

Mr. Armstrong.—Well, I want to prevent half-breeds and others going up river and squatting anywhere and calling themselves settlers when they really are not, they have no families nor do they own land.

Mr. Wilmot.—Then you see Mr. Higgins, this applies to up the river, beyond where the ordinary commercial fishermen cannot fish; whereas the settler can fish anywhere. Then this regulation gives a sort of control over them.

Mr. Armstrong.—I think you had better let that go Mr. Higgins, it would not do to let everybody fish for their own use. They could not all get a net and boat, and they cost money, and if a man has a family he will be more careful not to run the chances of being fined, etc.

Mr. Wilmot.—Yes, I think, Mr. Higgins, that you had better let that go.

Mr. Higgins.—Very well, I will take your experience for it.

Mr. Wilmot.—That is agreed then, Sec. 6 unanimous.

7. That the regular annual close time for salmon fishing in any of the rivers, or streams of British Columbia, shall be from the 1st of October to the 1st March following in every year.

That the weekly close time for fishing for salmon or other fish in the waters of British Columbia shall be from 6 o'clock on every Saturday till 12 o'clock midnight on the following Sunday.

Mr. Wilmot.—Now, in the recommendations of persons giving evidence in this matter they say the use of $5\frac{3}{4}$ inch mesh shall prevail from 1st March to 25th August. But at the present time they do not use $5\frac{3}{4}$ but $7\frac{3}{4}$. Now they say a close season from 1st November to 1st March, but the spawning is not over by 1st November. I think you can all see the propriety of having an annual close season, because after the operations of the canneries are over, when these fish are caught with spawn running out of their bodies, a disgusting fish is being put upon the market. Then as regards the Sunday close time; now, I believe it should be up to 12 o'clock Sunday—I think the whole Sunday should be kept.

Mr. Higgins.—Well, in that case you see the canneries would have no work on Monday morning.

Mr. Armstrong.—Yes, but I think there is another point we should look at. The canneries have been used to hiring Indians, and while that is all very well, you must remember they take the place of whitemen, and although they are got cheaper, still it is a fact that the whitemen are in the long run cheaper, because the whitemen will go out at any time whereas the Indians will not. Now if the Indians are paid by the piece—as a rule they will bring in a good many salmon, but if they are paid by the day they know just how many fish it will take to pay their wages, and so you will not get many fish. Now, I would put it either that there should be no Sunday work at all, or I would leave it as it is now—if there is a full run of fish on Monday they will have them in by noon and there is plenty of time to put them up.

Mr. Wilmot.—Then the Indians have religious scruples they tell me—by the way what time do you have daylight here?

Mr. Higgins.—Oh, it is nearly daylight all night. I think I would not advocate any change in the Sunday close time.

Mr. Wilmot.—Well, I go strongly on having all day Sunday as a day of rest—I may say, Mr. Higgins, that I have noticed more inclination in British Columbia to break Sunday than in any other province in the Dominion, and now I see that Parliament is going to be asked to pass an Act that at the Canadian Government Exhibit at the World's Fair all shall be closed on Sunday.

Mr. Armstrong.—Well, but I think if we put it at 3 or 4 o'clock on Monday morning—how would that do?

Mr. Higgins.—Pshaw—3 or 4 o'clock Monday morning? why you don't want them to catch fish at all.

Mr. Armstrong.—Oh, well; it is no use trying to persuade me that they cannot put up fish on Saturday—I know they could do it if they liked but they want all day Saturday and Sunday to themselves.

Mr. Wilmot.—Well, but the canners asked themselves to have the close time Saturday and Sunday down to Monday, at 6 a. m. Then it was reduced to 6 p. m., Sunday.

Mr. Higgins.—Well, probably it did not work well that way and so was changed.

Mr. Wilmot.—Well, for three or four years they asked to have it made at six o'clock Monday morning; then they asked that it be changed back to Sunday evening. Now, if they were satisfied with 6 a. m., Monday, for several years, 12 midnight Sunday would be no hardship.

Mr. Armstrong.—Well, if they didn't know what they wanted, I think we should establish a rule for them; I say make it Monday morning.

Mr. Wilmot.—I certainly think all the Sunday should be kept, especially as you are trying here to christianize the Indians, and I do not think as a people we should allow this bad example to remain.

Mr. Higgins.—It will be hard work christianizing them, I fear. (Laughter.) Well, what do you say, Mr. Wilmot? From when till when?

Mr. Wilmot.—From 12 o'clock Saturday, if you choose, to 6 o'clock Monday morning.

Mr. Armstrong.—I would say from 6 o'clock Saturday morning until 3 o'clock Monday morning.

Mr. Higgins.—Well, but I don't think you will stop Sunday work around the canneries, no matter what you do; you might as well try to stop work on sailing vessels at sea, making sail, reefing, etc.

Mr. Wilmot.—Well, here is another view of the matter; there is going to be such an increase of fishing that the fish should, I think, get the advantage of it. Now there is going to be, I fancy, nearly a thousand licenses issued this year, and these will certainly sweep off the greater number of fish that come in; so you see they might fairly be given the advantage of an extended weekly close time. Well, what do you say, Mr. Armstrong?

Mr. Armstrong.—I say 6 o'clock Saturday morning to 3 o'clock Monday morning.

Mr. Higgins.—Well, I will go with you, Mr. Chairman, and call it 12 o'clock Sunday night.

Mr. Wilmot.—Now, cannot we make it unanimous, Mr. Armstrong?

Mr. Armstrong.—Very well; I do not want to be too obstinate; say 12 o'clock Sunday.

Mr. Higgins.—Now, on the first paragraph of that section 7, I would prefer being placed on record as wishing to defer my opinion until I have read the evidence. You see I have not had the advantages of you gentlemen in being present at all the sessions, so I would like to give my views on that part of the section later on.

Mr. Wilmot.—Very well; what do you say, Mr. Armstrong? Do you agree with the leading paragraph?

Mr. Armstrong.—Oh, yes; I think that is all right.

Mr. Wilmot.—Very well; we will say: Ayes—Messrs. Armstrong and Wilmot, and that Mr. Higgins defers his opinion until he has had an opportunity to read the evidence.

8. That the limitation for the size of mesh of salmon nets and the period in which such sized nets shall be used, shall be as follows:

A net with a $7\frac{3}{4}$-inch mesh for capturing spring salmon to be used from March 1st to August 15th. A net with a mesh not less than $5\frac{3}{4}$-inch mesh for sockeye, cohoe, or other salmon, may be used only between 1st July and 1st October. The above meshes are extension measure.

Mr. Wilmot.—This is for catching spring salmon only.

Mr. Higgins.—Is that all right?

Mr. Wilmot.—Oh, yes; I think so.

Mr. Armstrong.—But would not 15th July be sufficient?

Mr. Wilmot.—Well, it would only effect the freezers; you know they cannot catch sockeye with the big net.

Mr. Armstrong.—No; they cannot catch sockeye with the big net.

Mr. Higgins.—But suppose a run of sockeye came in?

Mr. Wilmot.—Oh, well, they cannot fish for sockeye very well; you see the net is different and they do not begin to fish for sockeyes until July, the latter end of July.

Mr. Higgins.—But if they do come they can use them. Is not that so?

Mr. Armstrong.—Well, but I don't think they come in so early; they have been caught later every year; they are not caught for canning until about the 15th or 20th of July.

Mr. Higgins.—Still, is it intended to prohibit the use of smaller mesh? I fancy I have heard of the cohoe being caught for canning in September or October.

Mr. Armstrong.—Oh, no; not to any extent.

Mr. Higgins.—Mr. Winter, have you that canners' testimonial? If you have, please let me see it.

The Secretary handed the memorial to Mr. Higgins.

Mr. Wilmot.—Well, at any rate, gentlemen, you see during these spawning times fishing should be prohibited, because, if fish are then caught, foul fish are being put upon the market.

Mr. Armstrong.—Oh, well, they don't do that; after the 1st of September the sockeye will not suit the market.

Mr. Wilmot.—No; but if they are caught and frozen and sent on in that way, then it is stocking the market with a poor fish.

Mr. Armstrong.—Yes; when they are thawed out they are a poor fish.

Mr. Wilmot.—Well, from the weight of evidence presented, all salmon spawn about the same time, and any salmon caught in rivers after September is not fit for food. Of course, if caught in the sea, it is different; but in the rivers they are a soft flabby body, and of no use for food. Now, the $7\frac{3}{4}$-inch mesh is for spring salmon, and they should be caught between 1st March and 15th August; after that they are not caught. Then with $5\frac{3}{4}$-inch for sockeyes and cohoes, and all other salmon, from 1st July to 1st October.

Mr. Higgins.—Well, would you mind laying over that matter until I look over the evidence; I would prefer that.

Mr. Wilmot.—Very well, but you see from the Order in Council the $5\frac{3}{4}$-inch mesh is established for sockeye and the canners themselves asked that $7\frac{3}{4}$ should be established for the spring salmon.

Mr. Higgins.—Very well; we will lay that over.

9. That all licenses so obtained shall not be transferable under any conditions whatever, without the consent in writing from the Department of Fisheries.

Mr. Wilmot.—I think that is unanimous; it is fair all round.

Mr. Armstrong.—Oh, yes.

Mr. Higgins.—Is it understood that no one but genuine fishermen shall get a license? No watchmakers, saloon-keepers, or others?

Mr. Wilmot.—Well, it is the intention that none but fishermen shall get fishermen's licenses. In section 5 we say all "*bona fide* fishermen, British subjects."

Mr. Higgins.—Very well, I think section 9 is all right.

10. That the tidal boundaries for all, or any fishing for commercial purposes connected with canning, freezing or exporting of salmon, shall be at Pitt River and at a line across the Fraser River at Whonnack Creek, above these two points on the Pitt and Fraser Rivers, netting or fishing for commercial purposes, as above described, is forbidden.

Mr. Wilmot.—You see, Mr. Higgins, the limit has been, as per this map in the departmental report for 1890, up to Hammond and Pitt River Bridge.

Mr. Higgins.—Well, was this ever enforced?

Mr. Wilmot.—No, but it has been substantially admitted by all. Now what we desire is to have all the body of the river and upper waters for spawning purposes, and to place the limit on the main river at Whonnack Creek, there is no commercial fishing beyond there, is there Mr. Armstrong?

Mr. Armstrong.—Yes, up to the Mission.

Mr. Wilmot.—Oh yes, I recollect, we had a letter about that, some one was catching fish and supplying the C.P.R. Now I think it would be most desirable to have all these upper waters for the benefit of the fish. There is no fishing beyond Mission now, and you will see the propriety of establishing a fair boundary.

Mr. HIGGINS.—There is no fishing in Pitt River at all now is there?

Mr. WILMOT.—No; none at all, this has been kept entire and we keep planting young fish there all the time. Well, what shall we call it? Shall we say that section defining the limit at Pitt Bridge and Whonnack's Creek is unanimous?

Mr. ARMSTRONG.—Oh yes.

Mr. HIGGINS.—Very well.

11. The use of seines for capturing fish of any description is wholly forbidden at the mouths of all rivers or streams within certain limits thereof as may be laid down by the Department of Fisheries.

Mr. HIGGINS.—They do not use seines down here do they?

Mr. ARMSTRONG.—No.

Mr. HIGGINS.—Well, they say they cannot catch any fish up in the northern rivers without them.

Mr. ARMSTRONG.—They fished out the Victoria Harbour for you.

Mr. HIGGINS.—Well, yes, but as a matter of fact the packers should never have been permitted to go up to these northern rivers and start establishments if now they are to be deprived of the only way in which they can catch fish for their factories.

Mr. WILMOT.—Well, I am sure, Mr. Higgins, if you had had the experience I have had in the use of seines in the east you would feel very decided about their pernicious effects.

Mr. HIGGINS.—Well, I would not agree with that section, for I am satisfied if the men up there could catch fish without a seine they would not use it.

Mr. WILMOT.—Well, but in that very river you mean the great decrease in the catch there is the most cogent reason for preventing seining in my opinion.

Mr. HIGGINS.—Well, but they cannot catch them at all with anything else.

Mr. ARMSTRONG.—What does the statute say on that point?

Mr. WILMOT.—Well, the British Columbia Regulations say "the use of seines is forbidden within the waters of British Columbia," (O.C. 7th Nov., 1890.) In large rivers like the Fraser and Skeena the principal fishing is now carried on right out in the estuary with drift nets—now to interfere with drift nets at the mouths of rivers would be very injudicious, but when you come to these small rivers where drift nets might just as well be used, the regulations say these seines shall not be used.

Mr. HIGGINS.—Well, I thought Mr. Spencer's evidence was very clear on that point, where he stated that they could not catch fish at all unless they used these seines.

Mr. WILMOT.—Well you see these seines are not used elsewhere they are most destructive appliances, even drifting for salmon is allowed only in your province, it is not permitted elsewhere.

Mr. HIGGINS.—Now, about the one-third of the channel—Subsection 8 of section 8 of the Fisheries Act reads "so as to obstruct more than one-third of the width of any river." Now, that must be somewhat mixed, because I have always understood that it was the one-third that was to be left open. Now, how is this? that would mean that two-thirds was to be left open—I never understood it that way.

Mr. WILMOT.—Well, Mr. Secretary, just take a note of that, and we will have it looked into. I do not understand the matter—I always understood that it was the third that was to be kept open—we will have it looked into Mr. Higgins.

Mr. HIGGINS.—Well, about the seines, I would like to make a reservation in favour of the Nimkish River—I know Mr. Spencer has told me often that they could not catch any fish at all with the gill nets and he had tried if often.

Mr. WILMOT.—Well, but look at the decrease in their catch there for the past six years. Then, Mr. Mowat was instructed to take eggs up there and they were taken up and what has become of them? I don't know, but they were asked for on account of the river having become depleted. The representations were that the river had declined and fallen off very much, and then since that according to the published returns of the catch it has much further fallen off, and if Mr. Earle or any one else will only look at the real reason, they will see that this seining is the real cause of it. Mr. Earle when down last year was very anxious about it, and the Minister went into the matter thoroughly and said the thing was so clear that they were destroying their own river.

Mr. Higgins.—Oh, well; but the decrease has only been for a year or two, and I don't know as that has been the cause. I would vote for the resolution making a reservation in favour of the Nimkish, until I get further evidence. I do not want to go it blind until I get full information.

Mr. Wilmot.—Well, what do you say, Mr. Armstrong?

Mr. Armstrong.—This is of course a recommendation to the Minister of Marine and Fisheries to change the law.

Mr. Wilmot.—Well, I don't know as it is exactly.

Mr. Armstrong.—Well, I don't know as I can consistently ask the Minister to exempt one river—I am satisfied that seines are injurious and should be not allowed.

Mr. Wilmot.—Well, as far as I am concerned, I am quite satisfied with the section—no rivers should be exempted.

Mr. Higgins.—Well, you might let that section lay over—I cannot agree to it at any rate until I get further information.

Mr. Armstrong.—Well, leave it until later.

12. That there shall be no discrimination with regard to the numbers of licenses, nor the fees payable for the same, for canners or others throughout the waters of British Columbia.

Mr. Higgins.—Yes, no discrimination. Oh, but what about the Skeena River? What are the reasons they give for a continuation of the present discrimination in fees—there they pay but $5 now I believe, while here the rate is $20.

Mr. Wilmot.—Well, on the Skeena they say there is no hatchery while there is one here—while here they complain there is more competition than up north and the license here should be as low, or the same figure as theirs.

Mr. Higgins.—What number of licenses were held by canneries up north last year—can you tell, Mr. Chairman?

Mr. Wilmot.—There were 300 licenses on the Skeena—200 to canners and 100 to outsiders.

Mr. Higgins.—How many canneries were there?

Mr. Wilmot.—Eight or nine.

Mr. Higgins.—And what do they pay for their licenses?

Mr. Wilmot.—Five dollars. And these people down here all unanimously declare that the fees should be made the same.

Mr. Higgins.—Well, but there is the hatchery here—that is quite an item.

Mr. Wilmot.—Well, but they have a corresponding advantage up there—they do not have the same competition.

Mr. Armstrong.—And then fish run much more regularly on the Skeena than here.

Mr. Higgins.—What do the fishermen pay here?

Mr. Wilmot.—Oh, they all pay $20 for the past three years. I have no doubt that the northern men will make a fuss about it, but you can bring up the evidence from canners themselves.

Mr. Higgins.—Well, put me down that there should be no discrimination in the licenses nor fees, except in the case of northern canneries, where the fee should remain as heretofore.

Mr. Armstrong.—I agree with the resolution that there should be no discrimination in the license fees.

13. That the throwing of fish offal or dead fish, saw-dust, mill rubbish, or any deleterious substance into the rivers, or other waters frequented by fish, is alike injurious to these waters, and to the inhabitants residing along the same, and therefore, the laws relating to the prevention of offal and deleterious substances being thrown into such waters, should be enforced in the interests of the community at large.

Mr. Wilmot.—Now, I go in for that, because I go upon the principle of it being correct and being enforced anywhere else. What do you say, Mr. Higgins?

Mr. Higgins.—Well, I am under the impression that if the offal was towed out to deep water—out to the deep channel of the river, it would pass out to sea and do no damage at all; but, if left near the canneries, I would not allow it at all.

Mr. Wilmot.—Well, I have been much surprised in getting evidence from fishery officers—for we have had another Commission, or investigation, since last with you—in

regard to the old way of cribbing the offal. That was a fearful practice, they say, much worse even than letting it go as now.

Mr. Higgins.—Well, I think if it was towed out into the stream, it would do no damage, but this thing of dumping it down near the canneries, I would not allow.

Mr. Armstrong.—Well, now, is it not a question whether we are doing justice to all parties in allowing this offal to be thrown away? Now, you know the dog-fish are plentiful, and they catch them just for the livers. Now, if they would put up oils, fertilizers, etc., out of this offal, could not a most merchantable article be made?

Mr. Higgins.—Well, but they say who have tried it, that it does not pay. Mr. Ladner says that he cannot get rid of the article.

Mr. Armstrong.—Well, here is Tom Cunningham, in giving his evidence states he could take twenty tons of it. Now, why don't Ladner say I will give it to you for $10—why could they not sell it cheaper to introduce it? Certainly, the oil is very profitable at 35 cents a gallon, for that is all dog-fish oil is worth, and even supposing they do lose $200 or $300 for a year or two until this business is put on a good footing, I don't think we would be doing right to let all this matter and good material be thrown away. Then, if put in near the canneries, how can you expect it to float away?

Mr. Higgins.—Oh, yes, it floats away, and then a great deal of it is eaten up. Then, you know, two flood tides go out each day.

Mr. Armstrong.—But another tide comes in and it all comes back again. I think if you don't let them throw it away they will find some means of getting rid of it.

Mr. Higgins.—Well, I cannot see any use in piling obligations upon these people, they have tried the oil factory but it has not been successful.

Mr. Armstrong.—Well, but here, take the two canneries up here, are you going to make them go to the expense of getting scows and taking it out to the deep water when they might be making good use of it? Now, that Frenchman down there who has been running the oil factory, he says it pays.

Mr. Higgins.—But how does he know? Tom Ladner says it does not pay, he is very positive about it and he ought to know if any one does, for he advanced the money, I understand. How would the Frenchman know anything about the financial part of the scheme?

Mr. Armstrong.—Well, of course, the prohibition of putting in offal is a thing that is law now anyway, so whatever we do it will simply be a recommendation to the Minister.

Mr. Wilmot.—I am sorry our Secretary has not had time to get the evidence of Mr. Arthur written up, his statement and the evidence given by that delegation that came up from Ladner's was to my mind very conclusive.

Mr. Higgins.—Well, I don't think so at all, it is a very dirty hole down there anyway.

Mr. Wilmot.—Then we had a very sensible man in Victoria who in giving his evidence stated that he had left the place (the Delta) on account of the injury from this offal.

Mr. Higgins.—Well, he left his boys there anyway.

Mr. Wilmot.—Well, gentlemen, let us get down to the point, of course you know my opinions pretty well, I think this should not be allowed to be thrown into the water at all. I would be very sorry to give any opinion that would militate against the canners, but I have had several conversations with representative cannerymen, Mr. Wadhams, Mr. English, and several others; and I have said this country is getting more populated all the while, and you had better make some arrangement about this offal before you are actually forced to, but they will not take any steps as long as they are allowed to go on as they have been doing. Then our cod fishermen say the offal and entrails of fish put in the water spoilt their fishing grounds and so they bring them ashore now and bury them. Then again we have the evidence right here in Vancouver Harbour, that the offal thrown in from an oil factory, offal of herring, etc., has driven the herring away from the harbour altogether. Now these are glaring examples and should be thought over.

Mr. Armstrong.—And if you take this offal all out into deep water after a time you will soon have no salmon at all coming in here.

Mr. Higgins.—How about the quantities of dead salmon up the river, is not that just as bad, or rather infinitely worse?

Mr. Wilmot.—Well, gentlemen, I think there is no use discussing the matter further. I think, Mr. Higgins, you will have to be in a minority in this.

Mr. Higgins.—Well, what is it you propose?

Mr. Wilmot.—I will re-read the section. (Read over section 13.)

Mr. Higgins.—What is the penalty now under the Statute for putting in this offal?

Mr. Wilmot.—Not exceeding $100 for each and every offence. I think, however, the close of this section would mean only the ordinary penalty coming under the general penalties of the Act—not exceeding $20 for each offence, but you see it means every offence—it can be doubled as often as you like. It is really a question in my mind which penalty would apply—perhaps the $20, because it could be renewed every time the offal was thrown in.

Mr. Higgins.—You admit there is no possibility of burying the offal, I suppose.

Mr. Wilmot.—Oh, yes; it could not be buried—the only other way, I think, would be to cremate it. But the way I look at it, I think a small sum from each canner, say $25 would erect an establishment for providing for this matter.

Mr. Higgins.—Well, but you see here is the law (showing Fisheries Act Sec., 15) —it can be buried ashore or put in perforated boxes—now these people have been simply carrying out the law.

Mr. Wilmot.—Well, I must say I am not prepared to give an opinion on that subject.

Mr. Higgins.—And the Act goes on to say, "the Minister of Marine and Fisheries may exempt from the operation of this subsection, wholly or partially, any stream or streams in respect to which he considers that its enforcement is not requisite in the public interest." (Sec. 15, ss. 2.)

Mr. Wilmot.—Oh, yes; he can do that, and if your political representatives can bring sufficient influence to bear upon him, why we cannot do anything, but as far as we are concerned, we must give our opinion irrespective of that. Now, what do you say, gentlemen, is this clause of our report carried?

Mr. Armstrong.—Wait a moment, don't be in a hurry—let us see what the law says.

I don't think this perforated box applies to the fisheries of the Fraser River—I think it applies to the deep-sea fisheries—of course, you must understand that this is simply a recommendation to the Minister, and I would not recommend anything that I did not think could be carried out.

Mr. Wilmot.—Then the resolution stands Yea?

Mr. Armstrong.—Yes.

Mr. Higgins.—No, I do not agree to it—I say that the offal should be thrown into the swift water of the river so as to float out to sea.

14. That it would be expedient for the improvement of the fisheries in British Columbia that additional fish hatcheries to the one now in existence should be built in well selected localities on the upper branches of the Fraser River—the evidence before this Commission being largely given in this line.

Mr. Higgins.—Unanimous—I was simply delighted with the hatchery when I went up to see it and I have never ceased to tell people what a splendid thing it is. I tell you it opened my eyes.

Mr. Armstrong.—Yes, unanimous—we want more of them.

15. That the great destruction of herring now practised to supply a few crude oileries on the coast and elsewhere should be prevented by departmental enactments and thus avoid the too great and rapid depletion of an important factor as bait for carrying on deep-sea fisheries of the British Columbia coast in the future.

Mr. Higgins.—Well, you will have to count me out of that, because I have not seen any evidence on that point, and cannot give any opinion.

Mr. Wilmot.—Well, what do you say, Mr. Armstrong?

Mr. Armstrong.—Well, I think that is quite right—I don't think the herring should be destroyed for the oil alone.

Mr. Wilmot.—And you, Mr. Higgins, defer your opinion not having read the evidence.

Mr. Higgins. Yes, sir; I do.

16. That the halibut fisheries on the coast of British Columbia, now assuming great importance from the successes which have attended the catches lately made and their introduction into the markets of Boston and elsewhere on the Atlantic coast, demand the husbanding care of the Government for the advancement of this new industry, which bids fair to give additional wealth to the inhabitants of British Columbia.

Mr. Higgins.—All right—yes, I agree to that.

Mr. Wilmot.—And you, Mr. Armstrong?

Mr. Armstrong.—Yes, that is quite all right.

Mr. Wilmot.—There is no doubt your halibut fishery is destined to be of great value here; your fish are so sweet and luscious.

17. That the inclination on the part of the fishermen is to increase the killing capacity of the drift net by giving it greater depth than appears necessary for fairly legitimate fishing, and as the depth as shown now varies from 30 to 60 meshes; and in order to place all fishermen upon the same footing in their fishing operations, and to guard against the too excessive destruction of the salmon, the drift net for sockeyes should be limited to a depth not exceeding 50 meshes.

Mr. Higgins.—What is the depth now?

Mr. Wilmot.—They run from 30 to 50 meshes, practically making them a seine for all intents and purposes.

Mr. Armstrong.—Are not most of them 40 meshes deep now?

Mr. Wilmot.—Well, no, I think not. I may mention the reason I put this clause in is because I got a letter from our inspector of fisheries this morning, and it seems the fishermen feel very much on this point. You see, a fisherman starts down with a 60-mesh net, and he floats down to where others have only 35 or 40 meshes, and so one will have 20 feet of net in depth and the other only 10, so you see the advantage of the one is obvious. Now, with a limit of 50 meshes they will be fishing with an equality of 16 feet of net and will all be on the same footing.

Mr. Higgins.—Yes; but I have heard no evidence on that—would it not be better to say the limit shall not exceed 50 meshes?

Mr. Wilmot.—Well, I have that in now.

Mr. Higgins.—Still, that is another point upon which I cannot give an opinion without further information. When do you leave, Mr. Wilmot?

Mr. Wilmot.—Well, just as soon as I can get away.

Mr. Higgins.—Oh, well, there will be two or three points upon which I can write you.

Mr. Armstrong.—What is the length of the net now?

Mr. Wilmot.—150 fathoms.

Mr. Higgins.—What are the nets in the east?

Mr. Wilmot.—Oh, well, they fish with nets 6 feet deep generally.

Mr. Higgins.—Well, I will be able to write you on this, after I have looked over the evidence.

Mr. Wilmot.—Well, what do you say, Mr. Armstrong?

Mr. Armstrong.—Well, I have no objection to it, as I think the majority of nets are 40 meshes now.

Mr. Higgins.—I defer my judgment—well, call it 60 meshes and I will vote for it now off hand.

Mr. Armstrong.—I don't think the canners will use those long nets, only the greedy fellows that want to fish for the spring fish. I will go in for 50 meshes.

Mr. Higgins.—Well, I will defer my opinion until I have looked over the evidence on the matter. Of course, you will understand I have not had the same opportunity of hearing all the evidence as you two gentlemen have, and am, therefore, on many little points somewhat in the dark.

18. That doubts having arisen with regard to the actual meaning of subsection 8 of section 8, chapter 95, of the Revised Statutes of Canada, it is desirable, in the interests of river fishing in British Columbia, with reference to leaving portions of the river free from fishing, that not more than one-third of the river should be left open.

Mr. WILMOT.—Now, we have laid over some matters.

Mr. HIGGINS.—Well, the first part of section 7 I will have to look over before I can give an opinion, also section 8 and sections 11, 15 and 17.

Mr. WILMOT.—Now, what other matters have you to bring up?

Mr. ARMSTRONG.—About the dog-fish.

Mr. HIGGINS.—Well, while we are on the salmon fishery, let us understand, if possible about the channel of the river.

Mr. WILMOT.—Oh, yes; you say that doubts having arisen as to the meaning of the Statute as to keeping open one-third of the channel? Subsection 8 of section 8 of the Fisheries Act—now it is desirable, in the interests of river fishing in British Columbia, with reference to leaving portions of the river free from fishing, that not more than one-third of the river should be left open?

Mr. HIGGINS.—Yes; that will fetch it.

Mr. ARMSTRONG.—Yes; not more than one-third.

Mr. HIGGINS.—Now, Mr. Armstrong, the dog-fish.

Mr. ARMSTRONG.—Yes; I want to prevent the killing of dog-fish for the livers only.

Mr. HIGGINS.—Do they kill many?

Mr. ARMSTRONG.—Oh, yes; they get thousands of gallons of oil every year, and they just take the livers out of the fish and throw the body of the fish on the bank.

Mr. HIGGINS.—What do they use it for—that is the oil?

Mr. ARMSTRONG.—For lubricating purposes; it is used very much in the saw-mills, etc. It is very much like the salmon oil, but if they want to use the fish for oil they should use all the fish.

Mr. HIGGINS.—But could they not make manure of the rest of it?

Mr. ARMSTRONG.—Yes.

Mr. HIGGINS.—But it has never paid?

Mr. ARMSTRONG.—Oh, but they should throw that offal in the deep water.

Mr. HIGGINS.—What do they do with it?

Mr. ARMSTRONG.—They throw it on the bank and leave it there.

Mr. WILMOT.—Well, now, see if this will suit your idea:

1. That the system now prevailing along the coast of killing vast quantities of dog-fish expressly for the use of the livers of said fish for oil purposes only should be discontinued, unless the bodies of these fish are utilized in the same manner.

Mr. HIGGINS.—Yes; that is all right.

Mr. ARMSTRONG.—Yes; that will cover it first rate.

Mr. WILMOT.—Well, sirs, what next?

Mr. ARMSTRONG.—Well, we have provided for the canners, the freezers, the exporters of fresh fish in ice and the fishermen, but have we provided for the salters of salmon?

Mr. WILMOT.—Yes; I was thinking of them—they ought to come in the list too, I think.

Mr. HIGGINS.—Yes.

Mr. ARMSTRONG.—The thing is now whether we should encourage the salting of fish when there is such a demand for the fresh fish.

Mr. WILMOT.—Well, there are persons engaged in that line, are there not?

Mr. ARMSTRONG.—I don't think there is any one engaged in it here unless when there is a surplus of fish.

Mr. WILMOT.—Well, say we give them one license—my own impression is no one will go into the business of salting fish unless they cannot do anything else with them—it is generally an inferior article, salt fish of any kind.

Mr. ARMSTRONG.—Well, rather than have any trouble, if a man is going to make a business of it he should get two licenses anyway.

Mr. WILMOT.—Well, but the parties who will apply for them then will be the freezers.

Mr. HIGGINS.—But do not some of these canneries salt sometimes?

Mr. ARMSTRONG.—They do when they have an over-plus of fish.

Mr. HIGGINS.—Well, I think any one making a special business of it, either salters or smokers, should have a couple of licenses, but not to smokers or salters—not two to a man because he is a salter and two more because he is a smoker, say salter and smoker to each.

Mr. WILMOT.—Very well, we will say two each to salters and smokers—now, how does this read?

20. That salters and smokers of fish who carry on this specialty in curing fish for domestic or foreign markets, and not engaged in the fishing business in any other way, may be entitled to obtain two licenses upon the payment of a fee for each license of $20.

Mr. HIGGINS.—Yes; that suits it all right.

Mr. ARMSTRONG.—Yes.

Mr. WILMOT.—Now, none can complain that they did not all have a chance.

Mr. ARMSTRONG.—Now, there is another point which I suppose comes within our province to speak about, viz.: the number of guardians on the river. I think there should be another steam launch and that there should be sufficient additional guardians to properly enforce the law.

Mr. WILMOT.—Oh, yes; that is a point on which we may very well express ourselves—a very important one too. How will this suit:—

21. That a suggestion is made to the department, for the advisability for further protection of the fisheries, that a sufficient number of additional guardians should be appointed to enforce the fishery laws.

Now, is that unanimously agreed to?

Mr. HIGGINS.—Yes.

Mr. ARMSTRONG.—Yes.

Mr. WILMOT.—Now, gentlemen, what next?

Mr. HIGGINS.—Well, I would recommend that we suggest to the department the propriety of introducing shad and lobster to these Pacific waters.

Mr. WILMOT.—Hear, hear.

Mr. ARMSTRONG.—Well, before we leave the Fraser River, I think we should recommend that measures be taken to get the spawn for the hatcheries out of the early runs of fish. I think taking them from the late fish is the reason why we are getting later runs of fish every year. I may, of course, be wrong, it is a theory of mine.

Mr. WILMOT.—Would this cover both sockeye and spring salmon?

Mr. ARMSTRONG.—Well, you are only cultivating the sockeye as yet, but if the other fish are to be cultivated, I think it should also apply to them—I think you would have more chance of getting better fish and earlier runs.

Mr. WILMOT.—Then, will this recommendation cover it?

22. That it is expedient in the interests of the Fraser River fisheries that the early runs of the quinnat and sockeye salmon should be captured from which to obtain their ova for artificial breeding in the hatcheries.

Mr. ARMSTRONG.—Yes; that covers it.

Mr. HIGGINS.—Yes; but do you consider the spring salmon a desirable fish?

Mr. ARMSTRONG.—Oh well, it covers both of them.

Mr. WILMOT.—Yes; some people say they want the sockeye and then many say they want the spring salmon—the freezers, for instance.

Mr. HIGGINS.—Does it take more capital to set up a freezer than a cannery?

Mr. WILMOT.—Well, that is a question—you see if they go into this business extensively they will have to get vessels provided with cold storage, etc., and it will be a very costly matter.

Mr. ARMSTRONG.—Well, now, Mr. Higgins, you were about suggesting something when I interrupted you.

Mr. HIGGINS.—Oh yes: about the lobster and shad.

Mr. WILMOT.—Yes; you think they should be introduced on this coast?—A. I think that is a good idea.

Mr. Higgins.—Well don't you think it would have some effect?

Mr. Wilmot.—Oh yes; I think so decidedly.

Mr. Secretary.—There is just one matter gentlemen, if I may remind you of it, I don't think you have any recommendation about oysters yet.

Mr. Wilmot.—That is a good idea, however, I had a note of it.

Mr. Higgins.—Well, you had better include the reference to oysters in the same resolution regarding the shad and lobster.

Mr. Wilmot.—All right; well now, how will this do?

23. That the introduction of shad, oysters and lobsters into the waters of British Columbia from the Atlantic coast, is most desirable, and that the Department of Fisheries be requested to institute such means as will bring about this most desirable enterprise.

Mr. Higgins.—Hear, hear, that will cover it.

Mr. Armstrong.—Yes that is all right.

Mr. Wilmot.—But we have not said a word about oyster culture here.

Mr. Higgins.—Oh, well, I think that is pretty well covered—if there are any other little points you may add them.

Mr. Wilmot.—Oh well, but it will just take a minute—now how will this read:—

24. That whereas the native oyster is found in some localities along the British Columbian coast and as they are becoming rapidly decimated by the action of a few fishermen and Indians regardless of consequences, it is desirable that the Fisheries department should take speedy action to prevent their extermination by establishing proper close seasons and encouraging persons who may be desirous of entering into the business of oyster culture.

Mr. Higgins.—Yes; that will do first rate.

Mr. Armstrong.—Yes.

Mr. Wilmot.—Then gentlemen, do you all agree to these as our recommendations and our report—these recommendations from 1 to 24 inclusive, that we have just gone over?

Mr. Higgins.—Yes; except those sections or clauses which I am to consider and give my opinion after reading more evidence than I have done as yet, etc.

Mr. Wilmot, Mr. Armstrong and Mr. Higgins then duly signed the report in the order named.

The Chairman declared the Commission finally adjourned at 6 p.m.

CHARLES F. WINTER,
Secretary.

BRITISH COLUMBIA FISHERIES COMMISSION.

FINAL REPORT.

In the matter of the Royal Fisheries Commission, duly appointed by the Dominion Government of Canada, for investigating into matters relating to the salmon fisheries of the Fraser River, and likewise the salmon and other fisheries of the province of British Columbia, said Commission being composed of the Honourable D. W. Higgins, of Victoria; Mr. Sheriff Armstrong, of New Westminster, and Samuel Wilmot, of Ottawa.

Evidence being taken under oath from numerous parties in relation to the subject of the fisheries at the cities of New Westminster, Victoria, Vancouver and Nanaimo, the following conclusions have been come to on the subjects contained in the several paragraphs herein, which are numerically written, and are recommended for adoption by the Fisheries Department of Canada, for the conservation and maintenance of the fishing industries of the province of British Columbia. The recommendations are as follows:—

1. That each canning establishment, actually carrying on the canning industry, shall be entitled to receive eighteen (18) boat licenses to fish as its maximum number, and that the fee payable for each such license shall be $20.

Ayes—Messrs. Armstrong and Wilmot; Nay—Mr. Higgins (requiring twenty-five licenses).

Carried—eighteen boats.

(Sd.) S. W.,
Chairman.

2. That each freezing establishment, actually engaged in the freezing and exporting of fish, shall be entitled to obtain not exceeding seven (7) licenses, and that the fee for each license shall be $20.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

3. That each establishment engaged in the actual business of shipping or exporting fish in ice, or otherwise, but not in the manner of freezing or canning, shall be entitled to obtain not exceeding three (3) licenses, at a fee of $20 each license.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

4. That each and every local trader or dealer in fish for home consumption, in cities, towns, or country, actually engaged in such traffic, shall be entitled to obtain not exceeding two (2) licenses, at a fee of $20 each license.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

5. That all *bonâ fide* fishermen, being British subjects and actual residents of the province, shall be entitled to obtain one (1) license to fish, upon payment of the sum of $20 for such license.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

6. That every actual resident settler (with his family residing with him), shall be entitled to obtain one (1) license to fish, upon payment of $2 for the same, and shall be permitted to fish in any of the waters of British Columbia, except in any prescribed limits at the mouths of rivers, or streams, or during the close times—every such settler shall be a British subject, and such license will only permit of fishing for family use, but not for sale or barter.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

7. That the regular annual close time for salmon fishing in any of the rivers or streams of British Columbia, shall be from the 1st October to the 1st March following in every year.

That the weekly close time for fishing for salmon or other fish in the waters of British Columbia shall be from 6 o'clock a. m., on every Saturday till 12 o'clock midnight on the following Sunday.

On the 1st paragraph of above section :

Ayes.—Messrs. Armstrong and Wilmot.

Mr. Higgins not having had an opportunity of going over all the evidence, and not being present at many of the sessions of the Commission, deferred his opinion on the paragraph until he had time to consider it.

The 2nd paragraph was agreed to unanimously.

(Sd.) S. W.,
Chairman.

8. That the limitation for the size of mesh of salmon nets and the period in which such sized nets shall be used, shall be as follows :

A net with a $7\frac{3}{4}$-inch mesh for capturing spring salmon, to be used from March 1st to August 15th. A net with a mesh not less than $5\frac{3}{4}$-inch mesh for sockeye, cohoe, or other salmon, may be used only between the 1st July and the 1st October. The above meshes are extension measure.

Yeas.—Messrs. Armstrong and Wilmot.

Mr. Higgins deferred judgment until he had time to read the evidence.

(Sd.) S. W.,
Chairman.

9. That all licenses so obtained shall not be transferable under any conditions whatever, without the consent in writing from the Department of Fisheries.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

10. That the tidal boundaries for all or any fishing for commercial purposes connected with canning, freezing or exporting of salmon, shall be at Pitt River, and at a line across the Fraser River at Whonnack Creek. Above these two points on the Pitt and Fraser Rivers, netting or fishing for commercial purposes, as above described, is forbidden.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

11. The use of seines for capturing fish of any description is wholly forbidden at the mouths of all rivers or streams within certain limits thereof, as may be laid down by the Department of Fisheries.

Yeas.—Messrs. Armstrong and Wilmot.

Mr. Higgins reserved his judgment until he had time to obtain further information on the subject.

12. That there shall be no discrimination with regard to the numbers of licenses, nor the fees payable for the same, for canners, or others, throughout the waters of British Columbia.

Yeas.—Messrs. Armstrong and Wilmot.

Mr. Higgins thinks a discrimination in favour of the northern canneries should be made.

(Sd.) S. W.,
Chairman.

13. That the throwing of fish offal or dead fish, saw-dust, mill rubbish, or any deleterious substance into the rivers, or other waters frequented by fish is alike injurious to these waters, and to the inhabitants residing along the same; and therefore the laws relating to the prevention of offal and deleterious substances being thrown into such waters should be enforced in the interests of the community at large.

Yeas.—Messrs. Armstrong and Wilmot.

Nay.—Mr. Higgins, who suggest that offal should be thrown into the swift water of the river to float out into the sea.

(Sd.) S. W.,
Chairman.

14. That it would be expedient for the improvement of the fisheries in British Columbia that additional fish hatcheries to the one now in existence should be built in well selected localities on the upper branches of the Fraser River—the evidence before this Commission being largely given in this line.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

15. That the great destruction of herring now practised to supply a few crude oileries on the coast and elsewhere, should be prevented by departmental enactments, and thus avoid the too great and rapid depletion of an important factor as bait for carrying on the deep-sea fisheries of the British Columbian coast in the future.

Yeas.—Messrs. Armstrong and Wilmot.

Mr. Higgins defers an opinion, not having read the evidence.

(Sd.) S. W.,
Chairman.

16. That the halibut fisheries on the coast of British Columbia, now assuming great importance from the successes which have attended the catches lately made and their introduction into the markets of Boston and elsewhere on the Atlantic coast, demand the husbanding care of the Government for the advancement of this new industry, which bids fair to give additional wealth to the inhabitants of British Columbia.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

17. That the inclination on the part of the fishermen is to increase the killing capacity of the drift net by giving it greater depth than appears necessary for fairly legitimate fishing, and as the depth as shown now varies from 30 to 60 meshes; and in order to place all fishermen upon the same footing in their fishing operations, and to guard against too excessive destruction of the salmon—the drift net for sockeye should be limited to a depth not exceeding 50 meshes.

Yeas.—Messrs. Armstrong and Wilmot.

Mr. Higgins defers his judgment till evidence is read.

(Sd.) S. W.,
Chairman.

18. That doubts having arisen with regard to the actual meaning of subsection 8, of section 8, chapter 95, of the Revised Statutes of Canada, it is desirable in the interests of river fishing in British Columbia, with reference to leaving portions of the river free from fishing, that not more than one-third of the river should be left open.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

19. That the system now prevailing along the coast of killing vast numbers of dog-fish expressely for the use of the livers of said fish for oil purposes only, should be discontinued, unless the bodies of these fish are utilized in the same manner.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

20. That salters and smokers of fish who carry on this specialty in curing fish for domestic or foreign markets, and not engaged in the fishing business in any other way, may be entitled to obtain two licenses upon the payment of a fee of $20 for each license.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

21. That a suggestion is made to the Department for the advisability for further protection of the fisheries, that a sufficient number of additional guardians should be appointed to enforce the fishery laws.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

22. That it is expedient in the interests of the Fraser River fisheries that the early runs of the quinnat and sockeye salmon should be captured from which to obtain their ova for artificial breeding in the hatcheries.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

23. That the introduction of shad, oysters and lobsters into the waters of British Columbia from the Atlantic coast is most desirable, and that the Department of Fisheries be requested to institute such means as will bring about this most desirable enterprise.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

24. That whereas the native oysters is found in some localities along the British Columbian coast, and as they are becoming rapidly decimated by the action of a few fishermen and Indians regardless of consequences, it is desirable that the Fisheries Department should take speedy action to prevent their extermination by establishing proper close seasons and encouraging persons who may be desirous of entering into the business of oyster culture.

Unanimously agreed to.

(Sd.) S. W.,
Chairman.

The above sections, from 1 to 24, were duly considered by this Commission, and the records of their unanimous adoption, or otherwise, is agreed to by the Commissioners by their signatures which are hereto attached.

Witnessed by
(Sd.) CHARLES F. WINTER,
Secretary.

(Sd.) SAML. WILMOT, *Chairman.*
(Sd.) W. J. ARMSTRONG,
(Sd.) D. W. HIGGINS.

New Westminster, B.C., 19th March, 1892.

True copy of original document.

CHARLES F. WINTER,
Secretary B. C. Fishery Commission.

MINORITY REPORT.

The following minority report was subsequently submitted by Mr. Commissioner Higgins :—

To the Honourable Charles H. Tupper,
Minister of Marine and Fisheries,
Ottawa.

Sir,—As a member of the fishery commission which lately sat and took evidence in this province, I beg most respectfully to call your attention to the fact that on at least two essential points I am at variance with my brother commissioners. My objections are noted at the foot of the respective paragraphs in the finding of the commission.

Before proceeding to state these objections, I cannot refrain from expressing regret that much valuable information bearing on the offal question was shut out by a majority vote of the commission, and consequently does not appear on the minutes of the proceedings. I felt the disappointment the more keenly for the reason that owing to official duties requiring my presence in the capital I was unable to be present when some of the evidence was taken. I have therefore been compelled to rely more particularly upon my own experience and observations and the evidence of medical men which I was fortunate enough to hear, to assist me in arriving at a conclusion as to the effects on the public health of the deposit of offal in the rivers of the province.

In my opinion the medical testimony does not support Mr. Wilmot's report of 1890, nor does it justify the finding of a majority of the commission. As you will have an opportunity of examining that evidence for yourself, I shall not refer to it at greater length.

So far as my own observation went of the condition of things along the line of the slough at Lander's on the Fraser River, I am strongly of opinion that the several cases of typhoid which occurred there last year are attributable to the drinking of the slough water by the inhabitants, said water being poisoned by the drainage from closets, kitchens and stables situated along the banks. I had a map prepared of the slough and its surroundings. This map was laid before the commission at Vancouver, sworn to, and handed to Mr. Winter for incorporation with the minutes. Upon referring to this map you will observe that forty-five establishments, including two hotels, discharge their sewerage into this slough. It is worthy of remark that typhoid was most prevalent in 1891, and that during that season the Delta Company, which has its cannery at the mouth of the slough, deposited no offal in the river, but sent it away to an oilery to be converted into oil and manure. Only on one occasion during the season of 1891 did any offal reach the slough, and then by the accidental collapse of the cannery floor. This was quickly repaired, and no more went into the river from that cannery.

While the commission were at Lander's, I procured a bottle of water from the slough. The tide was out, and the specimen was an exceedingly fine one—for the purpose. In colour it resembled strong paragoric. After being closely corked for three or four days it emits a smell that is closely allied to decayed wood. In fact, the water flows from the peat marshes of the Fraser, and is rendered more injurious by the addition of sewerage from the forty-five establishments referred to above. As to its taste I can give no report, as I did not venture to taste it in that way, but Mr. Wilmot, who drank a small portion, pronounced it excellent. I would not venture to say that Mr. Wilmot's subsequent sickness could be attributed to that draught of slough water, but is a remarkable coincidence that, although in an excellent condition of health up to that time, upon my return to the river a week later I found him scarcely recovered from a severe attack of illness.

I submitted my bottle of slough water for analysis by the Government Analyst at Victoria, and his report will be found among the minutes in Mr. Winter's possession.

My conclusion is that the water, even in its natural state, is unfit for use. When invaded by the sewerage mentioned, it becomes positively dangerous to life and should not be drunk by man or beast. For the condition of public health along the slough, I think from the medical and other testimony and from personal enquiries, that the throwing of offal into the river is not responsible, at least at Ladner's in the year 1891. I can well understand, however, that the deposit of offal in large quantities along the river banks is offensive to sight and smell, and cannot conduce to a good sanitary condition. But myriads of the fish after spawning in the tributaries of the main river die. Their bodies lie festering along the banks until they disappear by the gradual process of decay or are carried along by a sudden rise of the river to find a resting place at some other point. The late Mr. Mowat estimated that only from 5 to 25 per cent of the salmon that ascend the river to spawn return to the sea. Other authorities say that after a salmon has spawned it has performed its mission and dies at once.

I am aware that Mr. Wilmot, basing his opinion on the characteristics of salmon in eastern rivers, believes that the salmon here when not caught or destroyed by accident or exhaustion, return to salt water. My own observation extending over a period of nearly 34 years, leads me to the opinion that the habits of salmon of the Pacific coast are not identical with those on the Atlantic side, in this respect at least, and that few if any go back to the sea. However, it is admitted by all authorities that countless numbers die in the upper streams and it is not claimed that the presence of so much decaying matter in the water has an injurious effect on the health of the inhabitants. Such being the case and having in view my experience with Ladner's Slough water, I could not arrive at the same conclusion as my brother commissioners as to the evil effects of the deposit of offal in the river, although as a matter of precaution it should not be dumped near the shore but rather towed out in scows and deposited in the swift water of the river, the tremendous current of which in the course of a few hours will sweep

such portions as have not been devoured by scavenger fish into the salt water where it will speedily disappear. If the nets are occasionally fouled by the offal (and the evidence shows that they are) the loss will fall on the canners and not on the individual fishermen. As the spawning grounds are many miles above the canneries they cannot be contaminated by the deposit of offal in the river.

The enquiry had not long proceeded before I became impressed with the belief that the number of licenses issued should not be restricted: that all British subjects who applied should be granted licenses, and that no person not actually engaged in fishing, canning, or freezing should be licensed. This course, if adopted, will put an end to the traffic in licenses which has been carried on, and while the individual fishermen will be amply protected, the canner will not be at his mercy.

I do not agree with the majority in prohibiting the use of the seines at the mouths of all rivers, having been convinced by the evidence of experienced fishermen that on some of the northern streams (notably the Mimpkish River and Low and Rivers' Inlet) fish cannot be taken in any other way in sufficient numbers to make the business profitable. Stress has been laid on the fact that at Mimpkish last year only 600 cases were put up, and it has been attempted to be shown that the small catch is attributable to the use of the seine. But how is the catch of 1890 (the largest since fishing began on that river) accounted for, the seine having been used there for some ten or twelve years.

I am not in accord with my brother commissioners in their determination to fix all licenses at an uniform rate of $20, believing that some consideration should be shown to the northern canneries where no hatcheries have been established and where no expense has been incurred by the government. On the Fraser River the government have made a large expenditure in propagating salmon and in protecting the fisheries and until similar steps have been taken on the northern rivers it seems scarcely fair that the license fee should be the same.

I submit that the present is not the time when onerous regulations should be placed on the cannery business in this province. It is at present passing through a severe crisis, and I speak from knowledge obtained from the best authorities, when I say that no money has been made for the past two years by those engaged in the pursuit. The outlook for a market too is decidedly gloomy and the competition with the Alaskan pack is so keen that should your department impose regulations that would add to the burthens of our fishermen, the result would be disastrous. At this moment I hear that in consequence of the bad state of the salmon market an agreement has been come to by the canners to pack only one-half the usual number of cases during the coming season. As some $2,500,000 are invested in the business on Fraser River alone, I leave you to imagine the effect so short a pack will have on the trade of that part of the province.

It is to be regretted when we consider the magnitude of the interests involved that the scope of the inquiry was so limited, and that the time at the disposal of the Commission did not admit of a more extended and exhaustive investigation. It would be a still more regrettable circumstance if, as the outcome of the Commission, regulations should be imposed that would hamper the canners to an extent that would practically drive the product from the English market.

I know that I need not point out to you the necessity of fostering this most important industry, and that you are keenly alive to all that concerns the welfare and advancement of the various interests embraced in your department, and I feel sure that the matters upon which I have ventured to touch may be safely left with you to adjust on a basis which shall be fair to all.

In conclusion, I must place on record my unqualified admiration at the grand results that have attended the establishment of salmon hatcheries here, and cannot help expressing the hope that the usefulness of that important branch will be extended in every possible way, so that every stream in the province shall enjoy the benefits that would certainly flow from the adoption of this most enlightened policy.

I have the honour to be, sir, yours obediently,

(Sd.) D. W. HIGGINS.

Victoria, B.C., 29th March, 1892.

Supplement to the 25th Annual Report of the Department of Marine and Fisheries.

REPORT

ON THE

LOBSTER INDUSTRY

OF

CANADA

1892

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REPORT

ON THE

LOBSTER INDUSTRY OF CANADA.

To the Hon. CHARLES H. TUPPER,
Minister of Marine and Fisheries.

SIR,—Although the annual reports of this department for the past two years* contain a large amount of interesting information relative to the lobster fishery; its exhausted condition in several localities, and the best means to preserve it from total extinction; it has been deemed advisable for purposes of reference as well as otherwise to place before you a collection of the several memoranda and reports made from time to time by the officers of your department on this valuable industry; an industry which has increased in value from $15,275, in 1869, to over $2,250,000, in 1891. It will be readily admitted that a fishery of such importance deserves protection; the more so, when it is a well-known fact that the drain now put on its capabilities is excessive, and unless efficient and proper legislation is adopted to check it, the fishery is doomed to exhaustion. There can be no doubt but these crustaceans are becoming scarce in a great many localities; the average size of the fish is also gradually but surely growing smaller in many districts.

If these crustaceans have not suffered irretrievable injury in Canada, and if they are not yet beyond recuperation, it is due to the enforcement of judicious close seasons and to regulations fixing a minimum size under which no lobsters must be taken.

It is, however, evident that the productive power of these shell-fish has been over-taxed and that they cannot much longer stand the heavy drain of the past twenty years. It, therefore, becomes a matter of imperative necessity not only to maintain intact the present regulations but to adopt further measures in order to assure the healthy condition of a staple industry upon whose permanency and productiveness thousands of persons in the Maritime Provinces depend for a livelihood.

The lobster belongs to the public not to the packer; the right of fishery in the open sea is also a public appanage, but the Government, as trustee for the public is in duty bound to protect and preserve this right for future as well as for the present generations.

The fecundity of the lobster is wonderful; every female reaching the age of maturity emits from 12,000 to 20,000 eggs every season. It may seem impossible at first sight to exhaust such an abundant supply; but experience has proved the contrary. To arrive at this conclusion, one has only to look at the number of lobsters caught every year in Canadian waters. In 1891, there were 14,285,157 cans packed at say 5 fish to the can—in some localities the average was 6 and 7—equal to 71,425,785 fish; adding thereto 6,312 tons of live or fresh lobsters of an average

NOTE.—See Annual Report for 1890, p. XXXI, 127; Fish Breeding Report, 1890, p. 17; Annual Report, 1891, p. XXVI.

weight of 2½ lbs per fish, we have 5,049,600 more, or an aggregate of 76,475,385 lobsters. With such an annual drain, it is to be wondered that this fishery has been able to hold on so long. The value of lobster factories, traps and other plant amounted in 1891 to $860,000.

Lobsters do not travel long distances. At the approach of winter they seek the deep waters where the temperature is milder and more uniform. With the return of spring they come back to their summer haunts, and as the season advances, gradually get nearer shore. It is therefore evident that continued over-fishing in a particular locality will eventually exhaust the breed without reasonable hopes of its being subsequently replenished by accessions from neighbouring areas.

MEANS OF PROTECTION TO LOBSTERS.

In his report for 1891, Superintendent Nielsen in charge of the Lobster hatchery of Newfoundland recommends the following for the protection and fostering of this industry.

"The only means by which the lobster fishery can be improved and continued in a profitable condition, are by artificial propagation on a large scale by floating incubators; by having a short season; by having a limited distance between each factory and by regulating the construction of all lobster traps, so that the small immature lobsters can escape, when they enter the traps. I am confident that these means will have the effect of conserving and extending this valuable fishery."

A copy of the Newfoundland regulations applicable to the lobster fishery will be found at the end of this report.

LICENSE SYSTEM.

No repressive regulations, however beneficial to the public at large, can be carried out without hurting or displeasing somebody. If the foregoing remarks establish the necessity which exists for the adoption of more efficient measures, the thing cannot better be done than by the adoption of a regular license system, which would bring this fishery under the provisions of the Fisheries Act. This system, which has already proved most beneficial in other branches of the fisheries would give the department better and fuller control; enable it to settle difficulties between parties, and facilitate the detection of illegal fishing and canning in remote parts of the country. Under such a system, the business could be property regulated, capitalists would invest their funds with greater security, and the value of the industry would thus be enhanced to the public as well as to the individual fisherman.

The fixing of a proper license fee is a somewhat difficult matter to arrange.

Large packers might approve of a high figure for the purpose of crowding out smaller competitors in the business, while the latter would be sure to raise the cry of monopoly.

I have the honour to be, sir,

Your obedient servant,

WM. SMITH,

Deputy Minister of Marine and Fisheries.

APPENDIX A.

FURTHER EVIDENCE OF DECREASE IN SIZE OF LOBSTERS

IN CANADA AS WELL AS IN FOREIGN COUNTRIES.

The continual decrease in size of lobsters is an evident proof of a diminishing supply. Some ten or twelve years ago, it would take only two or three lobsters to fill a can; now it requires six or seven, some even say eight. This decline in size is general, but mostly felt in Prince Edward Island and New Brunswick.

The fishery overseers and packers in Gloucester and Kent counties, as well as on the Northumberland Straits, agree in stating that lobsters are steadily getting scarcer and smaller; that it now takes from six to eight lobsters to fill one pound cans, and it is stated that in some parts of the Baie des Chaleurs, seventy-five per cent of the catch was under the legal size, and that if the legal standard were strictly enforced, no factory could continue to operate.

The same opinion is held by canners at Pictou, N.S., and Mr. J. Forest of Antigonish, who is an extensive packer, stated, after making a tour of the Halifax and Guysboro' counties, that he had seen more lobsters of nine inches than of any other size. Some packers hold that lobsters are of a much larger size on the north-east side of Cape Breton, and that three and a half lobsters are sufficient to fill a can.

QUEBEC.

In his report for 1875, Dr. Lavoie, then in command of the Gulf fishery division, says:—

"The apprehensions entertained in 1872 from the result of previous excessive fishing, were fully realized last season, so far as Baie des Chaleurs is concerned, where barely 9,315 pounds of lobsters were prepared against 216,432 pounds last year."

In his report for 1876, the same officer writes:—

"The ruin of the lobster fishery on the shores of the United States ought to warn and at the same time teach us a lesson which we should take advantage of; that is to regulate, with as little delay as possible, the mode of carrying on this fishery, if we would not suffer the same results as are already experienced at Carleton and Maria, and other places on the shores of Baie des Chaleurs * * * The fishing grounds of Maria, Carleton and New Richmond will require several years rest before they will become as valuable as formerly."

Again, in his report for 1877, the same officer says:—

"The first establishment began in 1874, and met with such success that there is now great competition among packers who desire to secure the most advantageous localities in Baie des Chaleurs and Gaspé. A fact worthy of notice is that, where canneries were first in operation, the result of their work is already apparent.

"At Carleton, for instance, packing had to be abandoned for want of lobsters, whilst 216,432 pounds were canned at Carleton and Maria in 1874, none were preserved in the former place this year, and the canneries of Maria, Bonaventure and Capelin put up only 35,200 cans."

In his report for 1883, Dr. Wakeham who succeeded Dr. Lavoie, says:—

"The lobster industry shows a falling off of 116,804 pounds. This decrease occurred mainly in the County of Bonaventure, where the lobster catch has already been failing for some years; in fact, there is only one cannery opened in that county now."

In his report for 1887, the same officer writes:—

"While in 1877, while the industry was yet in its infancy, 448,669 pounds of lobsters were put up by eleven canners; forty-five canneries, with a larger number of traps and better appliances, only succeeded in taking 857,098 pounds during the year 1887, and the article of poor quality, as, owing to the small size of the lobsters now generally taken, much of the meat is inferior, being soft and watery."

PRINCE EDWARD ISLAND.

Ex-Inspector Duvar, in a tabulated statement shows that, while in 1874 three and a-half lobsters were sufficient to fill a can, ten years later it took five, and now six and seven.

Mr. J. F. Lantz, a packer of Queen's County, P.E.I., is the only one who stated that most of the lobsters caught there measured twelve inches, and that four of them filled a can. This is certainly the best record on the Prince Edward Island coast.

Inspector Hackett reports that owing to the small size of the lobsters, due to continued over-fishing, a strict enforcement of the legal standard last year would have had the effect of closing all the factories.

Again, he says: in 1887, the lobsters were so small and so scarce that several packers had to close their factories early in the season, and not a few of them were driven into bankruptcy.

The deplorable condition of the fishery at that time, caused by over-fishing and the indiscriminate slaughter of lobsters of all sizes, obliged the department to resort to more stringent measures.

This is evidence enough to prove the decline in size in Prince Edward Island.

ENGLAND.

In the report of the commission appointed to enquire into the crab and lobster fisheries in England and Wales (1877), numerous evidences are given of a great falling off in the number and size of the fish as compared with what they were forty, thirty, twenty, or even ten years before—the reason is ascribed to over-fishing, catching immature fish and fishing at improper periods of the year.

The reports of the inspectors of fisheries for England and Wales for the years 1886-87, also speak of an alarming decrease in the size and supply of lobsters in Great Britain and Norway.

UNITED STATES.

In the United States many grounds where large and remunerative fishing used to be carried on are now completely fished out. This decrease has been most marked in such regions as have been fished the longest, and especially in the shallow water areas near the coast, which are easy of access, and which have been subject to increased drains. The greatest decrease has occurred within the last fifteen to twenty years, or since the establishment of numerous factories, and the perfected methods of transporting fresh lobsters to all parts of the country.

Quoting from the reports of the United States Commissioner on Fish and Fisheries, the following facts are elicited.—

"Cape Cod used to be a famous fishing ground; a large trade was started with New York. Each lobster pot could be relied upon to catch from 100 to 200 lobsters every night. Since 1885, a rapid decrease was noticed. In 1880, there were only 8 men engaged in this fishery; and, although they used the most improved appliances, their annual gross earnings did not exceed $60 each.

The official reports on "The Fisheries and Fishing Industry of the United States" published in 1887, sec. v., vol. 2, page 658 *et seq.* show that several formerly remunerative fishing grounds on the coast of Maine are now completely exhausted.

"On the Coast of Maine, although this fishing is of much more recent date, it has already exhibited alarming signs of decay, while the average size of individuals is generally decreasing. The shore fisheries are completely exhausted, and

fishermen are compelled to resort to distant grounds. Traps must also be set singly, instead of trawl fashion, because the lobsters are more scattered and consequently scarcer. In 1864, lobsters were so abundant at Mussel Ridge, that three men tending from 40 to 50 traps would catch all the lobsters which one smack was able to carry to market by making a trip once a week. In 1879, the same smack had to buy the catch of 15 men in order to obtain full fares, and at times required to visit other localities to complete the load. The same remarks apply to the Booth Bay region. In 1886, lobsters were very abundant about the Islands, and fishing was carried on close inshore; each man making about $700 during the season. In 1869, the number of fishermen had increased, but the profits were reduced to $175 per man, and the average size of lobsters was diminished. In the Saco district, the average catch per man is now about one-third what it used to be twenty years ago; and it now takes 80 lobsters to fill a barrel, while 65 were sufficient in 1865.

Extract from "Forest and Stream," Jan. 12th, 1888.

"An investigation of the lobster fisheries of Maine and the effect of the laws thereon, has recently been made by Deputy Labour Commissioner Campbell, of that State. He reports that the lobster fishery is an industry that has grown up in the past thirty years. Said a fisherman: "When I first went into the business, in 1853, there were but six smacks running lobsters in Maine waters, four of which were from New London, Conn. These smacks averaged about four men each. Five men caught at that time twice the amount of lobsters these five smacks could carry." From this small industry in 1850 it has grown to such vast proportions that it now employs nearly 2,000 boats, 40 sail of vessels, and gives employment to over 2,000 fishermen, and the transportation smacks in Maine waters employ more than 100 men in freighting or transporting lobsters caught in Maine waters. This industry distributes in various ways among the fishermen of Maine a gross sum of more than $600,000 annually. The business of lobster catching in general requires two men to a boat, with 200 traps, at a cost of about $300 for the entire outfit. The greater part of the fishing is carried on in small boats within a short distance of the fishermen's homes. In winter a small number of vessels are employed in deep-sea fishing."

"On the Coast of New Hampshire, the decrease for the past twenty years is said to have been from 50 to 75 per cent.

"In Rhode Island and Connecticut, there is also a considerable falling off, both in number and size."

Concerning the distribution of these Crustaceans it may be stated, *en passant*, that a few stray individuals are occasionally met with on the north-eastern coast of Virginia. On the coast of New Jersey, they are somewhat more abundant, and moderately common on Connecticut shores. The entire coast line of Massachusetts used to abound in lobsters; but over-fishing has nearly depleted the shallow waters.

IMMATURE LOBSTERS.

Professor Boeck, of Norway, expresses his opinion that lobsters become capable of spawning when three years old and have reached the length of eight inches. Lobsters less than eight inches are seldom found with any ova. See Goode's report, United States' Fish Commission, Sec. V. Vol. 1, 2, page 715.

Mr. S. Wilmot, Superintendent of Fish Culture, states that his experiment showed no lobsters with eggs attached under eight and a-half inches long. See Fish Breeding Report, 1890, page 25.

Mr. Alfred Ogden, fishery officer, after careful examination says that in the Straits of Northumberland 90 per cent of eight inch lobsters are capable of reproducing their species. He has noticed exuded eggs on smaller lobsters, even under seven inches. See his report in No. 2. Lobster Fishery memo.

Mr. Johnson, of Boston, stated before the American Fish Culture Association that in the waters of Massachusetts the minimum size of reproduction was ten and a-half inches. See Goode's report, sec. V. vol. 1, 2, page 730.

Mr. A. Neilsen, Superintendent of Fisheries in Newfoundland, places great importance on prohibiting the capture of immature lobsters. He recommends ten inches in some parts of Newfoundland and nine inches in others, as the legal size limit.

Mr. Robert Hockin, Inspector of Fisheries in Nova Scotia, states in his report that it is not profitable to put up lobsters of less than 9 inches in length; this law would meet the sympathy and interest of the packers.

BERRIED LOBSTERS.

Mr. Alfred Ogden suggests that the clause *re*-berried lobsters be excluded from proposed regulations, as he claims it has never been enforced, and never can be without placing an officer on each boat.

It is admitted by practical fishermen that berried lobsters when taken from the traps are not liberated, but stripped of their eggs and thrown with the others.

The Fishery Commission of England, after a thorough investigation of their fisheries, report as follows:—

"We are also unable to advise the other recommendations which have been made to us, viz; that the sale of berried lobsters should be prohibited. In the first place, if it were illegal to take berried lobsters, it would not pay the fishermen in many cases to pursue the lobster fishery. In the next place, the lobster when berried is in the very best possible condition for food, and it would be as illogical therefore, to prohibit its capture, as to prohibit the taking of full herrings.

"In the third place, if its capture were illegal, Mr. Schoville's evidence at Hamble shows that the fishermen would probably remove the berries.

"The berried lobster would no longer be seen in the market, but berried lobsters would be killed as much as ever."

(See British Commission Report vol. XXIV., pages XVI and XVII.)

The above is applicable to Canada in every particular.

The question of berried lobsters and the waste of eggs is fully dealt with by Superintendent Wilmot in the Fish Breeding Report for 1890, pp. 23, 24 and 25.

LOBSTER TRAPS.

Space between slats.

The catching of small lobsters is little better than dead loss to the packers, hence the necessity of preventing as much as possible the destruction of these immature crustaceans. That this end could be achieved by regulating the space between the slats of the traps is now evidenced beyond doubt, and that such a regulation after due notice given would not be objectionable to packers is also proved, by the fact that only two out of thirteen, to whom the question was referred, were opposed to any change.

Mr. Nielsen, superintendent of the lobster hatchery of Newfoundland, and who is an expert in such matters considers the regulating of lobster traps as one of the best ways to save the young lobsters from destruction.

In the Annual Report of the Newfoundland fisheries for 1891, he says:—

"Last summer I made a series of experiments with lobster traps in order to determine what space various sizes of lobsters required to escape from a trap. For this purpose I had six traps so constructed that lobsters could not get out otherwise than through the space between the laths. The space between the two undermost laths on each side and end, in the different traps, I had arranged from $1\frac{1}{2}$ to $2\frac{1}{4}$ inches; the laths in one trap being placed one-eighth of an inch further apart than in the other. Lobsters of various sizes, ranging from eight inches to ten inches in length, were then placed in the different traps, and these were pushed out into the sea for observation. The Hon. A. W. Harvey, chairman of the commission, was present and witnessed the experiment.

"The lobsters made the most strenuous and persevering efforts to escape. The results of the experiments were as follows:—

1. That a lobster ten inches in length can work itself out between the laths, in a trap, if these are put $2\frac{1}{4}$ inches apart, but cannot get out between the laths if they are placed $2\frac{1}{8}$ inches apart.

2. That a lobster nine inches in length can work itself out between the laths in a trap, the laths of which are put 2⅛ inches apart, but cannot get out between the laths if placed two inches apart.

3. That a lobster eight inches in length can work itself out between the laths if these are placed 1⅞ inches apart, but cannot get out between the laths if these are placed 1¾ inches apart.

"A model of the traps I had constructed for these experiments may be seen at the office of the Fisheries Commission. They are made on a different plan from the traps generally used in the fisheries of Newfoundland, and the cost of construction is only half that of the ordinary trap. No netting or twine is used in the heads—the most expensive part of the trap—so that they are less expensive to keep in order, and can be made in half the time."

(For a description of this trap, see the Annnal Report.)

Mr. Alfred Ogden, officer in charge of the Canadian Lobster Hatchery at Pictou, N.S., describes his experience on the same subject with the following results:—

A 10-inch lobster went through a 2⅛-inch space easily.

A 9-inch lobster went through a 2-inch space easily and through a 1¾-inch space with difficulty.

An 8½-inch lobster could not go through an 1½-inch space.

An 8-inch lobster went through a 1¾-inch space easily, but could not go through a 1½-inch space.

A 7½-inch lobster went through a 1½-inch space with great difficulty, but could not go through a 1¼-inch space.

THE LOBSTER FISHERY REGULATIONS OF THE STATE OF MASSACHUSETTS.

Re space between slats of traps.

In the Report of the Fish Commissioners of the above named State for the year 1892, it is stated that:

"At a hearing before the Legislature of 1889, for the better protection and preservation of the lobster fisheries, there were present over a hundred fishermen, representing every town on the coast of Massachusetts where this industry is of any value. Their opinions were freely expressed, either personally or by counsel. All were in favour of protecting the egg-bearing lobsters, and all but one favoured the 10½-inch law. The only fear they expressed was that the law would not be enforced, and law-abiding fishermen be handicapped by the lawless element which exists more or less among the fishermen. Many of the more intelligent men among them offered to aid us in our efforts to protect the fisheries. The law of 1889 passed both Houses by a unanimous vote, and the Legislature placed in the hands of the commissioners what was supposed to be sufficient means to enforce the law.

A large number of prosecutions have been made, and up to the present time the fines paid into the courts have gone far toward reimbursing the state for its expenditures in this direction. The lawless fishermen have been driven from one thing to another, until at last they have adopted a device which makes it difficult to detect them. They put their short lobsters in traps or small crates and bags, and sink them, to be taken up at night and either put on board lobster smacks to be carried out of the State, or sent to restaurants and places of summer resort. A majority of these violators are foreigners or persons from other States. This creates dissatisfaction among the law-abiding fishermen, who complain that they put over the small lobsters only to have them caught and sold by others. In justice to those who are living up to the law, and in the interest of economy to the State, we recommend that the Act of 1889 be amended as follows:—

Section 3 of Chapter 109 of the Acts of the year 1889 is hereby amended by inserting before the words "all cars," &c., the following words: "All traps and contrivances for taking lobsters shall have their slats not less than 2 inches apart, and shall, with the buoys attached to them, have the name and residence of the owner or owners legibly marked thereon;" so that said section shall read as follows, viz.:—

Sec. 3. All traps and contrivances for taking lobsters shall have their slats not less than 2 inches apart, and shall, with the buoys attached to them, have the name and residence of the owner or owners legibly marked thereon; and all cars or other

contrivances for keeping lobsters shall have the name and residence of the owner or owners legibly marked thereon, under the penalty prescribed in section 75 of chapter 91 of the Public Statutes.

If this amendment is enacted it will allow almost all lobsters, less than $10\frac{1}{2}$ inches in size, to pass out of the traps, and save the fishermen much labour in sorting their catch. Several lobster catchers have already adopted this arrangement, and it should be made universal by law. It was not until lobsters were reduced in size by over-fishing, and the market was open to small ones, that the slats on lobster traps were put closer together than 2 inches. In all countries were fisheries are protected, the size of mesh of nets is regulated; and there seems to be no good reason why the same principle should not be applied to lobster traps."

APPENDIX B.

REVIEW OF THE LOBSTER FISHERY LEGISLATION IN CANADA AND THE UNITED STATES.

Subsection 7 of section 15 of the Fisheries Act provides that:—" Shell-fish " fisheries shall be subject to the provisions of this Act, and any regulation or " regulations to be made under it."

The first regulation bearing on the lobster fishery was enacted in 1873. It prohibited the taking of soft-shell lobsters, lobsters in spawn and lobsters under one pound and a half in weight.

In 1874, the months of July and August were fixed upon as a close time, and a gauge of nine inches introduced.

In 1876, the above dates were altered, so as to read from 10th July to 20th August, and subsequently from 10th August to 20th September.

In 1877, the close time was fixed from 1st to 31st August for Nova Scotia, Prince Edward Island and the southern coast of New Brunswick, and from 20th August to 15th September for Quebec and the northern coast of New Brunswick.

In 1879, the above dates were again changed and a new regulation adopted limiting fishing from 1st April to 1st August on the western coasts of Nova Scotia and New Brunswick, and from 20th April to 20th August in Quebec, Prince Edward Island and the northern coasts of New Brunswick.

In 1887, the close time was made to read from 1st July to 31st December on that part of the Atlantic Coast extending from Cape Canso to the United States boundary, and from 15th July to 31st December in all the remaining waters of Nova Scotia, New Brunswick, Prince Edward Island and Quebec.

In 1888 the regulations of the previous year remained in force.

An Order in Council dated 26th March, 1889, confirmed the close season established in 1887, with the exception that on that part of the coast of the Atlantic Ocean from St. Peter's Island, Richmond County, to Meat Cove, Victoria County, fishing was to be permitted until 28th July.

On the 25th of April of the same year, another Order in Council was passed with the above exception omitted, thus restoring the close season as it was before.

The clause relating to soft-shelled and berried lobsters was reinstated, and the minimum length was increased from 9 to 9½ inches, measuring from head to tail. The standard was thus increased by one-half inch.

(See O.C. herewith.)

PRESENT CLOSE SEASON.

Since the consolidation of the Orders in Council (18th July, 1889,) no changes have been made in the close season for lobsters which was fixed on that part of the Bay of Fundy extending from the United States boundary to Canso, from 1st July to 31st December and in all the remaining waters of Nova Scotia, New Brunswick, Prince Edward Island and Quebec, from the 15th July to the 31st December.

In 1891, an Order in Council dated 28th January, fixes the minimum length of lobsters at 9 inches with no other changes. (See O. C. herewith.)

An Order in Council dated 25th May, 1892, applying to that portion of Prince Edward Island coast from Cape Traverse in an eastwardly and northwardly direction to EastPoint, thence westwardly to the north side of North Cape, provides that the limit size of 9 inches shall not be enforced, but that the close season shall commence on the 1st July instead of the 15th as enacted by previous Orders in Council. (See O.C. herewith.)

TABLE OF CLOSE SEASONS FOR THE LOBSTER FISHERY FROM 1873 TO 1892.

Year.	*Close seasons.*
1873.	No regular close season. Only taking of soft-shell lobsters, lobsters in spawn and under 1½ lb. in weight prohibited.
1874.	July and August fixed upon as a close season and gauge of 9 inches introduced.
1876.	Above date altered so as to read from 10th July to 20th August, and subsequently from 10th August to 20th September.
1877.	1st to 31st August for Nova Scotia, Prince Edward Island, and southern coast of New Brunswick, and 20th August to the 15th September for Quebec, and northern coast of New Brunswick.
1879.	1st April to 1st August for western coast Nova Scotia and New Brunswick; and 20th April to 20th August for Quebec, Prince Edward Island, and northern coast of New Brunswick.
1887.	1st July to 31st December for Atlantic coast from Cape Canso to United States boundary and from 15th July to 31st December for remainder of Maritime Provinces.
1889 to 1892.	Same as in 1887.

EXTENSION OF TIME.

An extension of time was asked in 1879, but refused.

In 1880, ten days extension was granted.

None in 1881.

In 1882, fourteen days extension was granted for Nova Scotia, and twenty-one for New Brunswick, Prince Edward Island and Quebec.

In 1883, five days extension was granted to Prince Edward Island, Quebec and the northern coast of New Brunswick.

In 1884, the fishing season was extended ten days.

In 1885, an extension was asked and refused.

The same in 1886.

In 1887, fifteen days extension were granted to Guysborough, Richmond, Cape Breton and Victoria Counties.

In 1888, twelve days extension were granted to that part of Cape Breton coast extending between St. Peters and Meat Cove.

In 1889, applications for extension of time were refused everywhere.

In 1890, the packers on the Cape Breton coast were allowed an extension of ten days till the 25th July.

In 1891, a general extension of fifteen days was granted.

In 1892, notwithstanding the efforts of some of the packers, no extension was allowed anywhere.

COPIES OF ORDER IN COUNCIL RELATIVE TO THE LOBSTER INDUSTRY.

GOVERNMENT HOUSE, OTTAWA,

MONDAY, 7th day of July, 1873.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Honourable the Minister of Marine and Fisheries, and under the provisions of the 19th clause of "The Fisheries Act," His Excellency has been pleased to make the following Regulation:—

"In the Provinces of Quebec, Nova Scotia and New Brunswick no person shall at any time, fish for, catch, kill, buy, sell, or have in possession any soft-shelled lobsters, or female lobsters with eggs attached, nor shall lobsters of a less weight than one and a-half pounds be at any time fished for, caught, killed, bought, sold or had in possession; but when caught by accident in nets or other fishing apparatus lawfully used for other fish, young lobsters of less weight than one pound and a half shall be liberated alive at the risk and cost of the owner of the net or apparatus, or by the occupier of the fishery, on whom, in every case, shall devolve the proof of such actual liberation."

W. A. HIMSWORTH,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA,

THURSDAY, 23rd day of April, 1874.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Honourable the Minister of Marine and Fisheries, and under the provisions of the 19th clause of "The Fisheries Act," His Excellency has been pleased to make the following Regulation:—

"In the Provinces of Quebec, Nova Scotia and New Brunswick no person shall, during the months of July and August, fish for, catch, kill, buy, sell or have in possession any soft-shelled lobsters or female lobsters, with eggs attached, nor shall lobsters of any less size than 9 inches in length measuring from head to tail, exclusive of claws or feelers, be at any time fished for, caught, killed, bought, sold or had in possession, but when caught by accident in nets, or other fishing apparatus lawfully used for other fish, lobsters with eggs attached, soft-shelled and young lobsters of a less size than 9 inches shall be liberated alive, at the risk and cost of the owner of the net or apparatus, or by the occupier of the fishery, on whom in every case, shall devolve the proof of such actual liberation."

His Excellency has also been pleased to cancel the Fishery Regulation established by Order in Council of the 7th day of July, 1873, having reference to the lobster fishery, and the same is hereby cancelled accordingly.

W. A. HIMSWORTH,
Clerk, Privy Council,

GOVERNMENT HOUSE, OTTAWA,

THURSDAY, 20th day of April, 1876.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Honourable the Minister of Marine and Fisheries and under the provisions of the Act passed in the Session of the Parliament of Canada, held in the 31st year of Her Majesty's reign, chaptered 60, and known as "The Fisheries Act,"—

His Excellency, by and with the advice of the Queen's Privy Council for Canada, has been pleased to make the following Fishery Regulations:—

"No person shall fish for, catch, kill, buy, sell or possess any lobsters between the 10th day of July and the 20th day of August in each year.

"Female lobsters in spawn or with eggs attached, soft-shelled and young lobsters of less size than nine inches in length, measuring from head to tail, exclusive of claws or feelers, shall not be at any time fished for, caught, killed, bought, sold or possessed, but when caught by accident in nets or other fishing apparatus lawfully

used for other fish, lobsters in spawn or with eggs attached, soft-shelled and young lobsters of a less size than nine inches, shall be liberated alive, at the risk and cost of the owner of the net or apparatus, or by the occupier of the fishery, on whom, in every case, shall devolve the proof of such actual liberation.

His Excellency has also been pleased to order that the Regulation passed on the 23rd of April, 1874, respecting "Lobster Fishing" be and the same is hereby repealed.

W. A. HIMSWORTH,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA,

FRIDAY, 19th day of May, 1876.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Honorable the Minister of Marine and Fisheries, and under the provisions of the 19th section of the Act passed in the session of the Parliament of Canada, held in the 31st year of Her Majesty's Reign, chaptered 60, and known as "The Fisheries Act," His Excellency, by and with the advice of the Queen's Privy Council for Canada, has been pleased to order, and it is hereby ordered, that the first paragraph of the Fishery Regulation adopted by the Governor-General in Council, on the 20th ultimo, relating to the lobster fishery, be and the same is hereby amended by substituting therefor the following:—

"No person shall fish for, catch, kill, buy, sell or possess any lobsters, between the 10th day of August and the 20th day of September in each year."

W. A. HIMSWORTH,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA,

SATURDAY, 26th day of May, 1877.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Honourable the Minister of Marine and Fisheries, and under the provisions of the Act passed in the session of the Parliament of Canada, held in the 31st year of Her Majesty's Reign, chaptered 60, and known as "The Fisheries Act,"—

His Excellency, by and with the advice of the Queen's Privy Council for Canada, has been pleased to order, and it is hereby ordered, that the Fishery Regulation adopted by the Governor-General in Council on the 19th May, 1876, relating to the lobster fishery, be rescinded and that the following be substituted therefor:—

"In the provinces of Nova Scotia, Prince Edward Island and that part of the province of New Brunswick, comprising the counties of Charlotte, St. John and Albert, no person shall fish for, catch, kill, buy, sell or possess any lobsters from the 1st to the 31st day of August in each year.

"And in that part of the province of New Brunswick comprising the counties of Westmoreland, Kent, Northumberland, Gloucester and Restigouche, together with the province of Quebec, no person shall fish for, catch, kill, buy, sell or possess any lobsters from the 20th day of August to the 15th day of September in each year."

W. A. HIMSWORTH,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA,

THURSDAY, 13th day of March, 1879.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Honourable the Minister of Marine and Fisheries, and under the provisions of the 19th section of the Act passed in the session of the Parliament of Canada held in the 36th year of Her Majesty's reign, chaptered 60, and known as "The Fisheries Act,"—

His Excellency, by and with the advice of the Queen's Privy Council for Canada, has been pleased to order, and it is hereby ordered, that the following fishery regulation be, and the same is hereby made and adopted:—

Lobster Fishery.

All previous Orders in Council relating to the lobstery fishery are hereby rescinded, and the following substituted therefor:—

1. In that part of the Province of Nova Scotia, comprising parts of the Counties of Cumberland and Colchester, on the Bay of Fundy, the Counties of Hants, King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's, Lunenburg, Halifax, Guysborough, Richmond, Cape Breton and Victoria; also in the Province of New Brunswick, comprising part of the County of Westmoreland, on the Bay of Fundy, and the Counties of Albert, St. John and Charlotte; it shall be unlawful to fish for, catch, kill, buy, sell or (without lawful excuse) possess any lobsters from the 1st day of August to the 1st day of April in each year.

2. In that part of the Province of Nova Scotia, comprising the Counties of Inverness, Antigonish, Pictou and parts of Colchester and Cumberland, on Northumberland Strait; and that part of the Province of New Brunswick, comprising the Counties of Westmoreland (in part), Kent, Northumberland, Gloucester and Restigouche; also in the Provinces of Quebec and Prince Edward Island; it shall be unlawful to fish for, catch, kill, buy, sell or (without lawful excuse) possess any lobsters from the 20th day of August to the 20th day of April in each year.

3. It shall be unlawful at any time to fish for, catch, kill, buy, sell or possess any female lobsters in spawn or with eggs attached, soft-shelled, or any young lobsters of less size than nine inches in length, measuring from head to tail, exclusive of claws or feelers; and when caught by accident in nets or other fishing apparatus, lawfully used for other fish, they shall be liberated alive at the risk and cost of the owner of the net or other apparatus, or by the occupier of the fishery, on either of whom shall devolve the proof of such actual liberation.

W. A. HIMSWORTH,
Clerk Privy Council.

GOVERNMENT HOUSE, OTTAWA,

SATURDAY, 17th day of December, 1887.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

On the recommendation of the Minister of Marine and Fisheries, and under the provisions of the 16th section of chapter 95 of the Revised Statutes of Canada, intituled "An Act respecting Fisheries and Fishing,"—

His Excellency in Council has been pleased to order, and it is hereby ordered, that the fishery regulation relating to the lobster fishery adopted by the Order in Council of the 13th March, 1879, be, and the same is hereby rescinded, and the following adopted in its stead:—

1. On that part of the coast of the Atlantic Ocean extending from Cape Canso westward, and following the coast line of the Bay of Fundy to the United States' boundary line, it shall be unlawful to fish for, catch, kill, buy, sell or have in possession (without lawful excuse) any lobsters between the 1st day of July and the 31st day of December, 1888.

2. In the remaining waters of the Provinces of Nova Scotia and New Brunswick, and in the waters of Prince Edward Island, and Quebec, (including the Magdalen Islands and Anticosti), it shall be unlawful to fish for, catch, kill, buy, sell or have in possession (without lawful excuse) any lobsters between the 15th day of July and the 31st day of December, 1888.

3. It shall be unlawful at any time to fish for, catch, kill, buy, sell, expose for sale or have in possession any berried or soft-shell lobsters, or any lobster under nine inches in length, measuring from head to tail, exclusive of claws or feelers, and when caught in fishing apparatus in legal use, they shall be liberated alive by the proprietor, owner, agent, tenant, occupier, partner or person actually in charge, either as occupant or servant, on each of whom shall devolve the proof of such actual liberation, and each of whom shall be deemed to be jointly and severally liable for any penalties or moneys recoverable under the Fisheries Act or of any regulation made under it.

JOHN J. McGEE,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA,

THURSDAY, the 25th day of April, 1889.

PRESENT :

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

His Excellency the Governor-General in Council under the authority conferred upon him by section 16 of "The Fisheries Act," chapter 95 of the Revised Statutes of Canada, has been pleased to order, and it is hereby ordered, that the regulations relating to the lobster fishery, established by the Order in Council of the 26th March, 1889, be and the same are hereby cancelled, and the following regulations established instead thereof:—

Lobsters.

1. On the part of the coast of the Atlantic Ocean extending from Cape Canso westward, and following the coast line of the Bay of Fundy to the United States' boundary line, it shall be unlawful to fish for, catch, kill, buy, sell or have in possession (without lawful excuse) any lobsters between the 1st day of July and the 31st day of December in each year.

2. In the remaining waters of the Provinces of Nova Scotia and New Brunswick, and in the waters of Prince Edward Island and Quebec (including the Magdalen Islands and Anticosti), it shall be unlawful to fish for, catch, kill, buy, sell or have in possession (without lawful excuse) any lobsters between the 15th day of July and the 31st day of December in each year.

3. It shall be unlawful at any time to fish for, catch, buy, kill, sell, expose for sale, or have in possession, any berried or soft-shell lobster or lobsters, or any lobster or lobsters under nine and one-half inches in length, measuring from head to tail, exclusive of claws or feelers, and when caught in fishing apparatus in legal use, they shall be liberated alive by the proprietor, owner, agent, tenant, occupier, partner or person actually in charge either as occupant or servant, on each of whom shall devolve the proof of such actual liberation, and each of whom shall be deemed to be jointly and severally liable for any penalties or moneys recoverable under the Fisheries Act or of any regulation made under the said Act.

JOHN J. McGEE,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA,

WEDNESDAY, the 28th day of January, 1891.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

Whereas it is considered expedient that sub-section *c* of section 5 of the General Fishery Regulation prescribed by the Order in Council of the 18th July, 1889, chapter 69 of the Consolidated Orders in Council of Canada, which enacts that it shall be unlawful at any time to fish for, catch, kill, buy, sell, expose for sale or have in possession any berried or soft-shelled lobster or lobsters or any lobster or lobsters under nine and one-half inches in length, measuring from head to tail exclusive of claws or feelers, should be amended by making the legal size for lobsters nine inches, instead of nine and one-half inches, as at present,—

Therefore His Excellency, under the authority conferred upon him by "The Fisheries Act," chapter 95 of the Revised Statutes, and by and with the advice of the Queen's Privy Council for Canada, is pleased to order that sub-section *c* of section 5 of the aforesaid Order in Council of the 18th July, 1889, as well as any other Order in Council that may have been passed to the same effect, as such sub-section *c*, shall be and the same is hereby amended so as to read as follows:—

"(*c.*) It shall be unlawful at any time to fish for, catch, kill, buy, sell, expose for sale, or have in possession, any berried or soft-shelled lobster or lobsters, or any lobster or lobsters, under nine inches in length, measuring from head to tail exclusive of claws or feelers, and when caught in fishing apparatus in legal use, they shall be liberated alive by the proprietor, owner, agent, tenant, occupier, partner or person actually in charge either as occupant or servant, on each of whom shall devolve the proof of such actual liberation, and each of whom shall be deemed to be jointly and severally liable for any penalties or moneys recoverable under the Fisheries Act, or of any regulation made under the said Act."

JOHN J. McGEE,
Clerk, Privy Council.

GOVERNMENT HOUSE, OTTAWA.

WEDNESDAY, the 25th day of May, 1892.

PRESENT:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL.

Whereas it has been represented to His Excellency that on account of the small size of the lobsters on a certain section of the coasts of the Province of Prince Edward Island, the enforcement of the size limit of nine inches provided by the existing regulations would effect a practical closure of the lobster canneries of that district:

And whereas it is also represented that the addition of fifteen days to the close season for lobsters on these coasts would be a fair equivalent for the suspension of the size limit, as the number of lobsters that would thus be saved from the pack during the present season would work as effectual a means for the preservation of the lobster as the enforcement of the size limit during the whole open season,—

His Excellency is therefore pleased, under the provisions of "The Fisheries Act," chapter 95 of the Revised Statutes, and by and with the advice of the Queen's Privy Council for Canada, to order that section 4 of the General Fishery Regulations for the Province of Prince Edward Island, established by the Order in Council of the 18th day of July, 1889, chapter 73 of the Consolidated Orders in Council of Canada as well as the regulation affecting the lobster fishery established by the Order in Council of the 28th day of January, 1891, so far as they relate to that portion of the coast of the Province of Prince Edward Island, extending from Cape Traverse in an eastwardly and northwardly driection to East Point, thence in a westwardly direction to the north side of North Cape, and to that portion only, shall be and the same are hereby suspended, and within the said limits no person shall fish

for, catch, kill, buy, sell or have in possession (without lawful excuse) any lobsters between the first day of July one thousand eight hundred and ninety-two and the first day of January, one thousand eight hundred and ninety-three.

JOHN J. McGEE,
Clerk, Privy Council.

REVISED STATUTES OF THE STATE OF MAINE.

Lobster Fishery.

Sec. 19.—There shall be a close time for lobsters between the 15th day of August and November, during which no lobster shall be fished for, taken, caught, killed, bought, sold, exposed for sale, or in possession, in cars, pounds or otherwise, under a penalty of fifty dollars for the offence and one dollar for every lobster so taken, caught, killed, bought, sold, exposed for sale, or in possession as aforesaid.

Sec. 20.—No person or corporation shall can or preserve any lobsters between the 1st day of August and the following April under a penalty of five dollars for every lobster so canned or preserved, and a further penalty of three hundred dollars for each day on which such unlawful canning or preserving is done.

Sec. 21.—It is unlawful to fish for, catch, buy, sell, expose for sale, or possess, for canning purposes or otherwise, between the 1st day of April and August, any female lobster in spawn or with eggs attached, or any young lobster less than nine inches in length, measuring from head to tail extended, exclusive of claws or feelers, and such lobsters when caught shall be liberated alive at the risk and cost of the party taking them, under a penalty of one dollar for each lobster so caught, bought, sold, exposed for sale, or in possession, not so liberated.

The above provisions were amended by chapter 275 of the Public Laws of the State of Maine, passed in 1885, which reads as follows:—

Sec. 1.—Section 19 of chapter 40 of the Revised Statutes is hereby amended so that as amended it shall read as follows:—

"Sec. 19.—There shall be a close time for lobsters between the 15th day of August and the 1st day of October, during which no lobster shall be fished for, taken, caught, killed, bought, sold, exposed for sale, or in possession, in cars, pounds or otherwise, under a penalty of fifty dollars for the offence and one dollar for every lobster so taken, caught, killed, bought, sold, exposed for sale, or in possession as aforesaid: Provided, however, that the provisions of this section shall not apply to any person taking lobsters not less than ten and one-half inches in length for the sole use and consumption of himself or family."

Sec. 2.—Section 20 of said chapter is hereby amended so that as amended it shall read as follows:—

"Sec. 20.—No person or corporation shall can or preserve any lobsters between the 15th day of July and the 1st day of the following April, under a penalty of five dollars for every lobster so canned or preserved and a further penalty of three hundred dollars for each day on which such unlawful canning or preserving is done."

Sec. 3.—Section 21 of said chapter is hereby amended so that as amended it shall read as follows:—

"Sec. 21.—It is unlawful to fish for, catch, buy, sell, expose for sale or possess between the 1st day of October and the 15th day of the following August, any female lobsters in spawn or with eggs attached, or any young lobster less than $10\frac{1}{2}$ inches in length, measuring from head to tail extended, exclusive of claws or feelers, and such lobsters when caught shall be liberated alive at the risk and cost of the party taking them, under a penalty of one dollar for each lobster so caught, bought, sold, exposed for sale, or in possession not so liberated. Provided, however, that from the 1st day of April to the 15th day of July it shall be lawful to fish for, catch, buy, sell, expose for sale, or possess for canning and all other purposes, any lobsters not less than 9 inches in length, measured as aforesaid, but not including female lobsters in spawn or with eggs attached."

Present close season for lobsters in Maine is from the 15th August to the 1st October.

Minimum size of lobsters is $10\frac{1}{2}$ inches.

REVISED STATUTES OF THE STATE OF MASSACHUSETTS.

Lobster Fishery.

Sec. 81.—Whoever, from the 20th day of June, to the 20th day of September takes a lobster, shall be punished for each offence by a fine of not less than ten or more than one hundred dollars, or by imprisonment in the House of Correction for not less than one or more than three months; but a person catching a lobster when lawfully fishing and immediately returning it alive to the waters from which it was taken, shall not be subject to such penalty.

Sec. 82.—Whoever, from the 20th day of June to the 20th day of September, buys, sells or has in possession a lobster, taken in this Commonwealth, shall forfeit for each offence not less than ten or more than fifty dollars.

Sec. 84.—Whoever sells or offers to sell, or has in his possession with intent to sell, either directly or indirectly, a lobster less than 10½ inches in length, measuring from one extreme of the body extended to the other, exclusive of claws or feelers, shall forfeit five dollars for every such lobster, and in all prosecutions under this section the possession of any lobster not of the required length shall be *primâ facie* evidence to convict.

The above sections were amended by the Act of 1886 which provides that :—

"Sections 81 and 82 which regulate the catching of lobsters are amended by reducing the time from June 20th to September 20th, to the month of July, and changing " lobster " to " female lobster bearing eggs."

Sec. 84.—The possession of a lobster under the legal size is punished, the words " with intent to sell," being stricken out. Mutilation affecting the length is *primâ facie* evidence that the lobster is under the legal size. The commissioners of inland fisheries, with the assistance of the district police, have power to enforce the law.

The fish commissioners, either personally or by deputy, and the district police, detailed for that purpose, may search suspected places for, seize and remove lobsters taken, held or offered for sale illegally.

Present close season for lobsters in Massachusetts is from 1st to 31st July.

Minimum size of lobsters is 10½ inches.

APPENDIX C.

THE UNITED STATES LOBSTER FISHERY.

The United States, lobster fishery has had such a rapid growth, that the demands upon it have exceeded its capacity. The total catch increased from year to year, but so did the number of fishermen and the number of traps, even in the greater proportion, and the grounds have been enlarged until they now cover an exceedingly broad area and extend into deeper water than was ever dreamt of in connection with this fishery. The decrease in the average catch per trap and man, as well as in the yearly earnings, and average size of lobsters, has kept pace with the increase in the fishery; the inshore grounds in many places have been nearly depleted, and in some of the deeper areas, the lobsters are so much scattered that it is no longer profitable to set the traps in trawl fashion.

The following figures and data, which are compiled from the United States Census returns for the year 1880, give an accurate idea of the yield and value of the lobster fishery. They tell their own tale and require no further comments, except a simple assertion that the state of comparative decay into which the lobster industry of certain States had already fallen, and its complete exhaustion in others, is evidently due to the same causes which have worked similar results in Canada; that is to say, over-fishing.

From the United States census returns for the year 1880.

RECAPITULATION.

State.	Lobster Traps.	Lobsters, Fresh.	Lobsters, Canned.	Bulk.	Value Fresh.	Value Canned.
	No.	Lbs.	Lbs.	Cans.	$	$
Maine	104,465	4,739,898	9,455,284	1,831,211	173,796	238,253
New Hampshire	1,806	250,000			7,500	
Massachusetts	33,996	4,505,771			172,745	
Rhode Island	2,857	423,250			15,871	
Connecticut	3,900	723,885			27,145	
New York		135,000			5,062	
New Jersey		156,800			5,880	
Delaware		150			6	
	147,018	10,934,754	9,455,284	1,831,211	408,005	238,253
						408,005
						746,258

1887—Canada.

Nova Scotia	*80,000	3,046,000	6,688,923	†5,225,531	262,326	802,670
New Brunswick	118,115	7,300,000	2,630,559		109,500	315,667
Prince Edward Island	*100,000		2,009,107			241,092
Quebec	*45,000		857,098			102,851
Total	443,115	10,346,000	12,185,687	5,225,531	371,826	1,462,280
						371,826
						1,834,106

*Approximately.
†Alive.

STATISTICAL STATEMENTS *re* CANADIAN LOBSTER INDUSTRY.

The following tables showing the value of fishing plant etc., as well as the yield and value of the lobster fishery in Canada, need no comments. They show at a glance the immense development of this industry. From 61,100 pound cans which it produced in 1869, it has grown to 14,285,157 pounds in 1891. During the same period the value of both canned and fresh lobsters rose from, $15,275 to $2,252,421.

In Prince Edward Island alone, the number of factories which was only 35 in 1879, has increased to 212 in 1892, and it is believed that this number was still augmented by several new factories last year.

STATISTICAL STATEMENTS in connection with the Lobster Fishery.

Re number of Factories and Traps.

This information can be supplied in a complete manner only for 1890 and 1892.

Number of Factories	370	626
Number of Traps	553,068	768,479

NUMBER of Canneries in the different Provinces.

Year.	Princed Edward Island.	New Brunswick.	Quebec.	Nova Scotia.
1892	212	186	46	182
1891	142	143	46	not given.
1890	98	106	33	133
1889	81	not given.	37	not given.
1888	79	75	35	do
1887	130	123	45	do
1886	130	168	not given.	do
1885	115	159	33	do
1884	95	not given.	not given.	do
1883	88	do	do	do
1882	123	do	do	do
1881	118	do	po	do
1880	58	do	do	do
1879	35	do	do	do

The total number of lobster traps not being regularly given by the different inspectors, it is impossible to make a general statement of number of traps:—

For last year (1892) the number of traps was 768,479.

For the year 1891, it was 547,788.

For the year 1890, it was 553,068.

For the year 1888, it was 504,250.

That is, over half a million traps used annually.

TABLE of the yield and value of lobsters in Prince Edward Island.

Year.	One pound cans.	Value.
	No.	$
1876	362,676	43,521
1877	663,900	99,585
1878	1,649,900	329,960
1879	2,272,825	464,565
1880	3,551,050	710,210
1881	6,312,865	1,262,573
1882	5,198,720	1,039,744
1883	3,844,573	461,348
1884	4,336,655	520,398
1885	4,389,189	526,702
1886	3,616,780	434,013
1887	2,009,107	241,092
1888	1,446,227	173,547
1889	2,060,947	247,313
1890	2,416,794	290,015
1891	3,670,414	513,857
1892	2,819,572	394,739

TABLE showing the number of lobster traps; also, yield and value of lobsters in New Brunswick since 1883.

Year.	No. of traps.	Quantity of lobsters.		Total value.
		Cans.	Tons.	
				$
1883	82,043	4,042,954	925	634,193
1884	105,984	5,662,072	1,709	900,580
1885	127,488	5,236,252	3,111	878,767
1886	139,236	4,661,812	4,290	827,971
1887	118,115	2,630,559	3,650	425,167
1888	84,013	1,843,368	1,948	334,945
1889	93,114	1,800,573	1,035	247,118
1890	118,593	2,365,256	1,014	333,960
1891	140,518	3,330,120	922	503,096
1892	172,022	3,204,320	1,132	493,804

NOTE.—New Brunswick is given for comparison purposes, as in no other province is the number of traps regularly mentioned.

TABLE showing the yield and value of the lobster fisheries since 1869, in Canada.

Year.	Lobsters.	
	Lbs.	Value.
		$
1869	61,100	15,275
1870	591,500	92,575
1871	1,130,000	282,500
1872	3,565,863	882,633
1873	4,864,993	1,214,749
1874	8,117,221	2,022,581
1875	6,514,380	1,638,659
1876	5,373,088	795,082
1877	8,086,819	1,213,085
1878	10,714,611	1,689,681
1879	10,244,329	1,650,290
1880	13,105,072	2,143,312
1881	18,576,523	2,955,861
1882	20,818,730	2,849,705
1883	17,084,020	1,949,253
1884	22,063,283	2,351,859
1885	27,299,036	2,613,731
1886	33,758,421	2,638,394
1887	30,369,687	1,834,108
1888	22,173,773	1,483,388
1889	21,131,233	1,484,488
1890	25,055,984	1,648,344
1891	26,909,157	2,252,421
1892	24,580,498	1,996,725

NOTE.—Lbs. includes the number of cans and quantity shipped alive or fresh.

TABLE showing the total yield and value of the Lobster Fishery from 1869 to 1892.

Years.	Lobsters preserved.		Lobsters shipped alive or fresh.		Total Value.
	Number of cans.	Value.	Tons.	Value.	
		$		$	$
1869	61,100	15,275	.....	.....	15,275
1870	591,500	92,575	.....	.....	92,575
1871	1,130,000	282,500	.....	.....	282,500
1872	3,565,863	882,633	.....	.....	882,633
1873	4,864,993	1,214,749	.....	.....	1,214,749
1874	8,117,221	2,022,581	.....	.....	2,022,581
1875	6,514,380	1,638,659	.....	.....	1,638,659
1876	5,373,088	795,082	.....	.....	795,082
1877	8,086,819	1,213,085	.....	.....	1,213,085
1878	10,714,611	1,689,681	.....	.....	1,689,681
1879	10,244,329	1,650,290	.....	.....	1,650,290
1880	13,105,072	2,143,312	.....	.....	2,143,312
1881	17,490,523	2,939,221	543	16,640	2,955,861
1882	16,808,730	2,780,445	2,005	69,210	2,849,705
1883	13,364,020	1,889,265	1,860	59,988	1,949,253
1884	15,933,283	2,259,892	3,065	91,967	2,351,859
1885	17,303,038	2,463,780	4,998	149,951	2,613,731
1886	16,434,421	2,356,659	8,662	281,734	2,638,394
1887	12,185,687	1,462,282	9,092	371,826	1,834,108
1888	9,597,773	1,207,033	6,288	276,354	1,483,388
1889	10,637,233	1,276,468	5,247	208,020	1,484,488
1890	11,559,984	1,387,198	6,748	261,146	1,648,344
1891	14,285,157	1,999,921	6,312	252,500	2,252,421
1892	12,524,498	1,758,425	6,028	238,300	1,996,725

APPENDIX D.

EXTRACTS *re* LOBSTERS, FROM DEPARTMENTAL REPORTS BY DIFFERENT FISHERY OFFICERS.

Supplement No. 2, *Fishery Statements, Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p.* 3.

15th Annual Rept. Dept. of Marine and Fisheries, 1882.

"I would not recommend any extension of the open season for these fish, if any such change is contemplated. I would, on the contrary, strongly recommend that for the future in this province a close season of two months be required, for during most of that time they are really unfit for food and ought not to be packed."

Supplement No. 3, *Fishery Statements, Report of W. Wakeman, Commander Fishery Steamer, "La Canadienne," Quebec, p.* 77.

Ibid.

"The run of lobsters is much smaller than formerly, the limit of 9 inches is being very closely measured; in fact complaints are made that the law is sometimes broken in this respect, and unless we have an overseer at each cannery, it will be difficult to carry out the law thoroughly. It seems to be the opinion of most of the lobster fishers, that a more proper time for the close season would be from the middle of July to the middle of August. There is no doubt that lobsters taken in September and October, are in better condition than those taken during the end of July and August. It might be well at the Magdalen Islands to try this change. The extension of time this season was not very generally availed of."

Supplement No. 2, *Report on the Fisheries of Canada, Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p.* 25.

16th Annual Rept. Dept. of Marine and Fisheries, 1883.

"There are nevertheless many evidences that the natural source of supply is being overtaxed, and I fear a few years more will bring to view unmistakeable proof of an exhaustion which will be alarming. On those portions of the coast where factories have existed for any length of time, the lobsters are much smaller than formerly—a sure evidence that the locality is being over-fished; and such is the state of matters now on a very large extent of coast. If any change is to be made, I would recommend that a uniform close season be fixed from the 20th July to the end of August or 10th September, as during that period many lobsters are shedding their shells, while all are really unfit for food and ought not to be put on the market."

Supplement No. 3, *same Report, Report of W. H. Venning, Inspector of Fisheries for New Brunswick, p.* 71.

Ibid.

"The present close time extends from 20th August to the 20th April, a period of eight months. Soft-shelled lobsters, those with eggs attached, and all less than 9 inches in length, are now forbidden to be killed. With all this protection, the fishery shows indisputable signs of exhaustion. Not only is the supply falling, but the average size has fallen below 9 inches. Had the law been rigidly enforced this season, every cannery in the province would have been closed."

Supplement No. 2, Fisheries Department Report, Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p. 79.

"There is some differences of opinion as to the proper close time for lobsters. It is quite certain that, during five or six weeks in mid-summer they are unfit for food, the time varying from two to three weeks, between the extreme east and west of the province. I am of the opinion that a uniform close time of six or seven weeks, from the 20th July to the end of August, or 25th July to 5th September, would be preferable to the present law. This would give those fishermen, on coasts obstructed with ice late in the spring, an opportunity to fish some six or seven weeks in the fall months, when the fish are perfectly good." Annual Rept. Dept. of Fisheries, 1884.

Same Supplement, Report of A. C. Bertram, Fishery Officer for Cape Breton, p. 95.

"I respectfully submit that the close season for lobster fishing might, with very much advantage to those engaged in the business, and with no injury to the fishing itself, be extended to, at least, the 21st of August, and I venture to recommend that the 'close season' for the shores of Cape Breton be extended accordingly." Ibid.

Appendix No. 3, Report of the Department of Fisheries. Annual Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p. 86.

"The present close time gives pretty general satisfaction, and is well observed. It is not so easy to enforce the clauses prohibiting the catching of lobsters under 9 inches in length, and of female fish; still our officers have kept a close watch on the factories and fishermen. When it is shown that the present regulations are insufficient, more stringent methods will have to be adopted, for however unwelcome they may be to those now concerned, it will be to their advantage in the end." Annual Rept. Dept. of Fisheries, 1885.

Appendix No. 5, Report of Comdr. W. Wakeham, Quebec, p. 176.

"I should advise dividing the coast into sections and licensing the grounds; already at the Magdalen Islands and in the bay, much confusion and a good deal of bad feeling exists among the fishermen, as the lines of traps in many places cross and interfere with each other, this can only be prevented by licensing the grounds." Ibid.

Appendix No. 3, Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p. 85.

"Lobsters have been plentiful on most of our coast but show unmistakable evidence of exhaustion in many places from over-fishing. More stringent regulations are much needed to preserve this fishery from sharing the same fate that has overtaken it in other countries. I would recommend a close time extending from 20th July to 10th September, and to be made uniform all around our coast, and that none be taken less than 10½ inches." Annual Rept. Dept. of Fisheries, 1886.

Appendix No. 3, Report of A. C. Bertram, Fishery Officer for Cape Breton, p. 97.

"It is probable that this branch of fishery has attained about the limit of expansion, and henceforth care will have to be exercised, as far as practicable, that the amount of fishing will not exceed the possible limits of production. Experience has now proved this to be not only a profitable branch of the fishing industry, but that it is more uniformly reliable than most other coast fisheries, so long as the source of supply is not too heavily drawn upon." Ibid.

Appendix No. 4, *Report of W. H. Venning, Inspector of Fisheries for New Brunswick, p.* 146.

Annual Rept. Dept. of Fisheries. 1884.

"The returns still show an enormous catch of this shell-fish, the average size of which continues to diminish."

Appendix No. 5, *Report of J. H. Duvar, Inspector of Fisheries for Prince Edward Island, pp.* 175, 176 *and* 177.

Ibid.

"The lobster fishery has taken another year's step towards its early extinction. More factories have been in operation (with still more threatened for next year), many more traps have been set and greater exertions made, with the result of 772,409 fewer cans. There is now a total absence of large fish, while the great bulk of those canned barely reach the standard of 9 inches, thereby placing the fishery officers in the unpleasant dilemma of either being powerless or having to shut down every factory in the province, with it may be one or two exceptions.

"The circumstances of the fishery are changing year by year. It is now no longer a question of regulating a legitimate occupation, but of dealing with a ruined industry.

"The Inspector in previous reports has repeatedly drawn attention to the extreme desirability of having the lobster fishery brought within the operation of the Fishery Act, so that, under whatever name or form, packers could be assured of an area in which they could carry on their legitimate business without undue interference, and he has time and again brought forward verbal and written evidence to show that almost all the packers in this province were in favour of such a measure, and that without it nothing but confusion and over-fishing would ensue. While quite aware that no grant can be made nor any exclusive use of any portion of the sea be given, his reading of the clause in section 18, subsection 5 of the Act, that 'disputes between parties relative to ..... position and usage of nets and other fishing apparatus shall be settled by the local Fishery Officer'—was that the local Fishery Officer had power to define the space required for the due use of fishing apparatus, viz.: traps, against undue interference by others, and his opinion (perhaps an erroneous one), was, and is, that such required space, as laid down by the Fishery Officer, would be sustained in the ordinary courts of law.

"In default of a present possibility of adjusting lines, it becomes a matter of consideration whether it is not within the Minister's own power, under section 2 of the existing Act, to require a considerable annual license fee from all persons running lobster factories. The cases of licensed fish-traps and lobster-traps would seem to be parallel. Such a license fee, if heavy enough, would have the effect of preventing the crowding in of irresponsible small packers, and if it had that effect, could not be objected to by the larger factory owners, and would have the further good result of turning the attention of adventurers, whose only resources are a dory or two, to fisheries less heavily weighted. Moreover, it would be the first step towards putting in practice the sound maxim that fishery protection should be self-supporting."

Appendix No. 6, *Report of Commander W. Wakeham, Fishery Officer, Quebec, p.* 197.

Ibid

"On the mainland canners are anxious to have the close season changed. They wish to have it during midsummer, so that they can continue fishing during the fall, when lobsters are firmer, fuller and in every way better. At Magdalen Islands, the majority of canners are of the same opinion. Some few who have their factories on the west side of the Islands and who could not fish late in the fall owing to the

prevalence of westerly winds, might not benefit by the change, but even they are of opinion that the close season should be during midsummer. I believe that lobsters are in primer condition towards the fall."

Appendix No. 3, *Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p.* 83.

"The present close season as set out in the new Order of Council of 17th December, 1887, will be very favourable to this fishery. The new regulation is a wise one, though I think the close season should end on the 31st October, thus giving three months, which appear ample." Annual Rept. Dept. of Fisheries, 1887.

Report of A. C. Bertram, Fishery Officer for Cape Breton, p. 97.

"There is a general impression that this fishery is being overdone to an extent that threatens its extinction at no distant date, and the depression in the present year's prices points in that direction. It may be said, however, that the greater quantity taken points to an opposite conclusion. But it should not be forgotten that lobster canning factories are multiplying year by year, as well as the number of boats and men engaged in the catching. Ibid.

"Whilst it is evident that some restriction of the business is necessary in the public interest, hardship to any class of persons would possibly be avoided by adopting the following:—

"1st. A standard regulation of minimum size, below which it would be unlawful to kill lobsters, say 11 inches, and a strict supervision over all boats arriving at the factories to see that this regulation is faithfully obeyed; no sale to take place until the lot has been inspected.

"2nd. No factory to be permitted to go in operation except under a license from the Department, and no license to issue to factories situated within a given coast mileage from any other factory already licensed, precedence to be governed by priority of application. Some such method of restriction would preserve the lobster fishery in perpetuity, and avoid giving colouring to complaints on the ground of personal interest to any party. The shortening of the open season would enable the Department to fix upon such dates for opening and closing in each year as would be adapted to all localities irrespective of differences in early or late spring seasons."

Appendix No. 4, *Report of W. H. Venning, Inspector of Fisheries for New Brunswick, p.* 143.

"The returns show a most alarming decrease. In fresh fish the falling off has been 1,252 tons. In canned fish 2,031,253 pounds, nearly half the catch of last year. This decrease is caused entirely by scarcity of fish, caused by over-fishing in the past." Ibid.

Appendix No. 6, *Report of W. Wakeham, commander Fisheries steamer "La Canadienne," p.* 187.

"It is absolutely necessary that steps be taken to curtail this over-fishing, and this can only be done either by closing down altogether for a term of years, or by shortening the fishing season and increasing the gauge which should be no less than 10 or 10½ inches. At Magdalen Islands and elsewhere, lagoon fishing should be prohibited, as there is no question that the shoal warm waters of these lagoons are the natural breeding grounds of the lobster." Ibid.

Appendix No. 2, *Report of W. H. Rogers, Inspector of Fisheries for Nova Scotia, p.* 36.

"There is a small increase in the yield of this important item (lobsters), caused by limited time in which to take them, given by the law. They were very plentiful on most of the coasts and of a good size." Annual Rept. Dept. of Fisheries, 1888.

Appendix No. 3, Report of W. H. Venning, Inspector of Fisheries for New Brunswick, p. 97.

Annual Rept. Dept. of Fisheries, 1888.

"This fishery (lobsters) has almost ceased to be a remunerative industry in New Brunswick. As I have pointed out for the last ten years in every report, this result was inevitable from the wasteful manner in which the business was pursued. When the average size of the fish had become so small that it took from five to six and a-half lobsters to fill a pound can, and when canners sought by increased production to make up for low prices in over-stocked markets, what other result could be expected? The following figures will show how rapid the decline has been in the last five years. The catch was:—

	Cans.	Tons.
"In 1885	5,236,253	3,111
1886	4,661,812	4,290
1887	2,630,559	3,650
1888	1,843,368	1,948

"In 1886 there were 168 factories in operation; in 1887 there were 123, and this year only 75 have operated, many of these not running full time for want of fish. The report of the Commissioners appointed to enquire into the decline and its causes, showed beyond doubt that over-fishing was the cause of all the trouble, and that sufficient protection had not been provided by the regulations. At that time fishing was allowed only from 1st April to 1st August, and all the facts collected showed that this did not save the fish from growing smaller and scarcer."

PRINCE EDWARD ISLAND.

EXHAUSTION OF THE LOBSTER FISHERY.

In his annual report for 1887, Inspector Duvar writes: "Setting apart all local side issues, I may say that, along the whole 400 miles of island coast, lobster canning is completely exhausted."

ON THE INEXPEDIENCY OF MAKING DIFFERENT CLOSE SEASONS FOR NORTH AND SOUTH SIDES OF PRINCE EDWARD ISLAND.

The memorials addressed to the Department on this subject mainly emanate from West Point, Prince County, and Point Prim, Queen's County. This can, at best, be only regarded as the demand of fifteen factories out of thirty-five which are situated on the south side of the Island. The thing is not to be thought of for one moment, as any concession of this kind in a single instance would be sure to bring in shoals of similar applications from other quarters.

IT IS THE DUTY OF THE GOVERNMENT TO RAISE THE STANDARD OF THE LOBSTER TRADE IN FOREIGN MARKETS.

Owing to the inferior grade of goods prepared by some packers, the lobster business is in great danger of being seriously imperilled. Canadian packed lobster is at a very low ebb on English markets, so much so, that London green-grocers will have nothing to do with Prince Edward Island lobsters on account of their inferior quality. Some of the stock of 1886 is still unsold, owing to the poor quality.

PACKERS WILL BE RUINED.

No repressive regulation however beneficial it may be to the public at large, can be carried without hurting somebody. The lobster fisheries belong to the public, not to the packers. It is the Government's duty to preserve them, not only in the interest of the present generation, but in that of the future. The right of fishery in the open sea may belong to the public, but the Government is trustee for the public, and it is its duty to protect and preserve such a valuable industry against present as well as future contingencies.

It may be asserted without fear of contradiction, that most of the factories with 400 to 600 traps are run absolutely without capital. A rough shanty, a lobster dory (worth about $8) for every 100 or 150 traps; some laths to make traps, and a few logs for firewood are all the implements required for a start. The "packer" then arranges with some speculative merchant or other to supply him with the balance of articles needed, such as tins, ropes, killocks, flour, pork, tea, &c. The catch is handed to the merchant, who in turn passes it to the exporter, and then squares accounts with the packer by endorsing his notes for such minimum amounts as will keep the concern going. Wages are generally in arrear; sometimes balances due to the hands are never paid. The merchant gets the profit, if any, and the packer makes little more than a bare subsistence. Under such circumstances it is manifest that the packer can feel very little interest in the kind of goods he puts on the market. To him, a can is a can, worth 6 or 8 cents additional; no matter whether it is trash. Such are some of the reasons which have given Prince Edward Island lobsters so bad a name on British markets. And it is precisely these small factories that have ruined the lobster fishery, and just such a class of packers who join any agitation that promises them longer fishing.

The shortening of the fishing season will act as a judicious check. Merchants will be chary of making advances to irresponsible parties, and it is probable that a good many of these small and destructive hand-to-mouth concerns will be wiped out to the ultimate benefit of the fishery, and the advantage of responsible packers.

It is unnecessary to say that the above remarks do not apply to canneries which are worked with due capital. The owners of these factories are quite alive to the necessity of stringent protective measures.

"THE POOR FISHERMEN WILL BE RUINED."

This popular cry has no reason to be. Closing the lobster fishery on the 15th July will not injuriously affect the fishermen. Mackerel fishing begins on the 10th or 15th July, and affords abundant employment for all hands. Cod fishing goes on all summer until late in the fall. There is every indication that a profitable fall herring fishery will soon be established on the Island shores. Agricultural labour is in so great a demand that no man need go unemployed.

Females working in lobster factories will take their place in domestic and farm labour where a still greater demand exists for their services.

To the objection that lobster fishermen cannot engage in sea-fishing, because they do not possess the necessary gear, it may be answered that, a supply of hooks, lines and trawls is not expensive, and that merchants who now make advances to lobster fishers would only be too glad to furnish them with sea-fishing material on the same terms.

Lobster factories can be used for other purposes than that of canning lobsters. Large quantities of mackerel are annually so canned. In 1886, 679,584 tins of mackerel were put up in Prince Edward Island. Boneless cod can be prepared, and herring smoked. Salmon, eels, trout, oysters, clams, butcher's meat, game, corn, tomatoes, fruits and berries of all kinds can be preserved in cans, so that the factories need not stand idle, or close their doors, if they do not choose to do so. The stages, wharves, &c., can be made available for sea-fishing, while the buildings and outfit stand ready for the curing and packing of sea-fish. The lobster traps, placed under proper cover, suffer no deterioration and can keep for a long time.

NEW BRUNSWICK.

The Lobster Fishery for 1887.

Extracts from Reports of Fishery Overseers in New Brunswick.

GLOUCESTER COUNTY.

Overseer Hickson :—The lobster fishery continues to grow worse with every season. Each succeeding year finds the fish scarcer and the average size smaller.

Overseer Hache :—The catch of lobsters was smaller than last year.

Overseer Cormier :—Lobsters continue to grow scarcer and smaller. But one factory was in operation in the district and 6½ lobsters were required to fill a can.

Note.—Mr. Cormier is strongly of opinion that fishing should be allowed only from 15th August to 31st October in each year.

Overseer Poirier :—Lobster fishing here was a failure. The only way of saving this fishery that I can suggest, is either to stop fishing for three years or to make the traps in such a way that small lobsters will not be taken. Officers should be authorized to inspect all traps before they are put out and see that the slats are wide enough apart to allow the small fish to escape.

Overseer Ache :—Lobsters grow scarcer and smaller every year.

Overseer Boyd :—A decreased catch of lobsters. These continue to grow scarcer and smaller, and without protection the business will soon cease from want of fish.

Overseer Sewell :—The decrease in lobsters shows that the business has collapsed much sooner than was expected. Last year three factories were in operation; this year two of them closed up, and the remaining one, having all the fish to itself, put up but 16,760 cans—less than was packed last year by 33,536 cans.

Overseer Mauzeroll :—Lobster fishery was a failure. Three lobster factories were closed for want of fish, and the only one that continued to operate did not pay working expenses. The canning business has ceased to be a paying industry on this part of the coast.

RESTIGOUCHE COUNTY.

Overseer McPherson :—The lobster fishery is steadily decreasing, as well in the average size of the fish as in the numbers taken.

NORTHUMBERLAND COUNTY.

Overseer Stymast :—The lobster factories closed for want of fish long before the season ended.

Overseer Robichaud :—Only two lobster factories started this season. These soon closed and took their traps on shore for want of fish.

KENT COUNTY.

Overseer Guimon :—Lobsters are getting scarcer and smaller. The catch falls below that of last year by 100,000 pounds.

Overseer Hannah :—Lobsters were scarce; the quantity canned falls much below that of last year, and some of the factories closed for want of fish before the end of the season.

Overseer Girouard :—About the same quantity was canned as previous year.

Overseer Cormier :—Lobsters continue scarce and small and the quantity canned was less than last year.

WESTMORELAND AND ALBERT COUNTIES.

Overseer Deacon :—There were nineteen lobster factories in operation this year; nine of the old factories were closed during the whole season, but five new ones were operated. The returns show a decrease in the catch of 95,760 pounds. Each year shows a reduced catch notwithstanding the extra labor and apparatus employed.

ST. JOHN COUNTY.

Overseer O'Brien :—The great bulk of lobsters caught were sent alive to the United States' markets.

CHARLOTTE COUNTY.

Overseer Campbell ;—The lobster catch was somewhat larger than last year, but smaller compared with what it formerly was in this district. The American legal size being 10½ inches, and ours but 9 inches, has the effect of depleting our waters and protecting theirs. To give our lobsters an equal chance for protection, our standard should not be less than that across the border.

Overseer Ash :—Lobsters were not so plentiful, but a fair catch was made and sent fresh to Eastport.

SYNOPSES OF ANNUAL REPORTS OF INSPECTORS OF FISHERIES FOR 1891.

LOBSTER FISHERY.

Inspector Hackett:—Lobster fishing most successful last season all around coast. At beginning of season lobsters were of good size and condition for packing, but about 15th July they began to run small and became inferior in quality. Ice left coast early, and some lobsters were landed at Miminigash on the 29th April. Most factories began packing about 10th May ; this is considered an early start inside the gulf. Prospect of good season and high prices induced people to make large preparations and additions to plant. There were 142 factories operated this season, as against 98 in 1890. About 138,000 traps were used ; an increase of 42,000 over last year. There were 3,670,414 lbs. canned, as against 2,416,794 lbs. in 1890. Each trap's produce was equal to about 26½ one pound cans, or 1¼ one pound cans more per trap than in 1890. This increase is due to the 15 days extension, which was taken advantage of by about 80 packers on the south side. Had all factories closed on 15th July, as in 1890, the production per trap would have been less than in 1890, showing that the fishery, while improving under shortened season and better protection, cannot stand the enormous drain made upon it by use of so many traps. Large preparations are now being made for next season ; at least 50 more factories will operate in 1892 than in 1891, thus bringing the number of factories up to 200, equal to about 200,000 traps. As six lobsters generally fill one can, about 22,000,000 were killed last season to make up the pack. With increased appliances to be used in 1892, and traps allowed to capture the same number of lobsters as in 1891, at least 300,000,000 lobsters will be required to supply canneries in 1892.

The fecundity of lobsters is amazing, each female being said to produce from twelve to twenty thousand eggs each season, thus hatching tens of millions of young lobsters around our shores. One would think it impossible to exhaust this fishery, but experience has proved the contrary. As the fishery in the Gulf was much depleted by over-fishing a few years ago, great care will be required in future to prevent its going back into same condition. The new regulations will bring this fishery more directly under the control of the department's officers.

Inspector Hockin ;—The estimated value of the lobster catch in my division is 533,647. The catch on the Atlantic coast exceeds that of last year by about 6 per cent, while on the Straits of Northumberland, the increase was 30 per cent; this is partly due to the extension of time from July 15th to August 1st ; the effect of which was to lengthen the season by about 25 per cent, but it does not necessarily contribute to the increase of the catch for this year. At the beginning of the season, lobsters were large and abundant, but later on the catch was small not paying larger factories. The largest packers did not operate after the 15th July ; many who did expressed regret at the extension of time, as it does not pay large establishments. As soon as European buyers heard of the extension of time, they took alarm, expecting that larger quantities would be placed on the markets. Prices dropped and did not since regain their former point. The excellent prices realized, and perhaps

the increase of catch lately, along Northumberland Straits, has led to the erection of new factories, of which there will be more in 1892 than in 1891. Keen competition will result, and regulations affecting the size and berried lobsters will be endangered. Regulations cannot be enforced without large outlay, many factories being in out-of-the-way places, and on approach of cutters all evidence of violations are secreted until cutter is out of sight again. Until factories are brought under the license system, it will be impossible to strictly enforce the regulations. Now is the time when the department, in the public interest, for the purpose of preserving this fishery, should prohibit fishing without a license. It is always serious to interfere with the business of a country, unless public interests are injured, and the returns from this fishery for the past year, as well as for previous years, show that where the close season has been observed, the fishery is not declining. This information coming from many sources, dispels the suspicions, which, in the interests of those fearing restrictive legislation, are circulated. Until convinced of decline of fishery, do not consider it judicious to bring into operation further restrictive enactments, especially as the result of last year's fishing puts strong arguments in the mouths of those claiming such to be necessary. The non-observance of the close time is the most important of violations to be grappled with. It is claimed that the necessity for restrictive legislation lies in the fact that the history of this fishery in countries where indiscriminate fishing is allowed has been one of rapid extinction, and also that fish taken in the fall of the year are watery and lack the flavour of those caught in the spring, and that they contain an alkali which first blackens the cans and then the fish. Also that the placing of such fish on the markets is injurious to the business, as consumers obtaining inferior fish discredit all canned lobsters. It is also claimed, that in fall, three lobsters will not equal two when left till following spring. Nearly all these arguments are combated by fishermen who naturally endeavour to find excuses to support themselves in violating the law; but some believe them and get up a sympathy with neighbours, thus making it difficult to enforce the law.

All these points have some important bearing on legislation, and the department should have more solid basis than mere rumour and assertions—they should be made subjects of accurate official investigation; a test should be made of size—weight and quality at various seasons, and a careful analysis in spring and fall.

A paper giving the history of lobster fishery in other countries, supported by statistics, together with the natural history of fish, drawn up and printed for distribution, would help to educate those interested in the industry. The above mentioned tests could be included. The free circulation of such a paper among fishing settlements would take away the moral support which violators have in evading the law.

Inspector Wakeham.—The lobster fishery in the Province of Quebec shows an increased yield of 344,773 lbs. over that of 1890. Of this quantity 153,324 lbs. are due to the opening of new canneries at Anticosti Island. There was a decided improvement all over this division, lobsters being not only more abundant but of larger size. On the mainland fishing began about the 1st of May; at Magdalan Islands about the 20th of May, it being impossible to set traps while the herring fishing was going on. Besides the delay of beginning, canneries at Magdalen were badly handicapped by the epidemic of la grippe, which struck the island about the 1st June. The sickness being so sudden and so general, a good deal of meat ready to can was lost, and much that was canned was of an inferior quality, having stood too long and being put up by unskilled workmen. Though an extension to 1st August was granted, it did not make up for the loss caused by sickness, which occurred during the height of the season. It was impossible for fishermen to keep on lobster fishing, as mackerel struck in the middle of July. At Anticosti this fishery opened about the 26th May. New canneries had been established; those on the east end and south shore did well as these are new grounds, and the run of lobsters was large.

Inspector Pratt.—Last season's catch in the County of Charlotte division was excellent—this, coupled with the fact that the demand and prices were good, caused the people engaged in this branch of the fisheries to feel in good spirits. The lowering of the legal size to nine inches tended to increase the catch. As high as 14 cents

each was paid by buyers desirous of shipping lobsters fresh to markets. The increasing importance of this fishery requires that the regulations which control it be enforced as strictly as possible. Fishermen of this district take quite an active interest in having the fishery protected. Formerly they used to compete with each other in efforts to destroy it as quickly as possible.

Inspector Chapman.—Marked increase in the pack of this district, aggregating nearly 1,000,000 cans, and being nearly double that of 1890. There is some danger of over-fishing along the coast, as many new factories are going up this fall. No extension of time should be granted.

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APPENDIX E.

NEWFOUNDLAND LOBSTER REGULATIONS.

The following rules and regulations governing the lobster fishery of our sister colony will be found of interest:—

LOBSTER INDUSTRY.

1. No owner or manager shall engage in the business of canning lobsters in the Island of Newfoundland without having previously taken out a license.

2. The Receiver-General or any justice, sub-collector or preventive officer shall, on application, issue such licenses, and shall make a return to the Fisheries Commission of all licenses issued within three months after granting the same.

3. There shall be no fee charged for said licenses.

4. The Fisheries Commission shall supply all those authorized to issue licenses with a sufficient number of blank forms of license and of printed copies of all rules and regulations relating to the lobster industry.

5. The said license shall be in the following form, viz.:—

NEWFOUNDLAND: }
District. }

By virtue of the power vested in me under the rules and regulations respecting the lobster industry, made under and by virtue of section 16 of an Act passed in the fifty-second year of the reign of Her present Majesty, entitled "An Act to provide for the formation of a Fisheries Commission and for other purposes," I of do hereby license to engage in the business of lobster canning at for a period of one year from the date hereof, subject to the said rules and regulations, a copy of which is hereto attached.

Given under my hand at , in the district of , this day of , A.D. 18 .

6. The owner or manager of any lobster canning establishment convicted before a justice of a breach of rule and regulation numbered 1 shall be subject to a penalty not exceeding four hundred dollars, and in addition thereto such justice may declare all the lobster gear of such owner or manager forfeited and order the same to be sold at public auction.

7. No person within this colony shall spear, kill, take, catch, trap, buy or sell any lobster for the purpose of being canned from the 5th day of August until the 5th day of September in each year under a penalty not exceeding five dollars for each lobster so taken.

8. Any fisherman may capture lobsters of any length at any time for food for himself and his family.

9. It shall be the duty of justices, sub-collectors, fish wardens, preventive officers and constables to see to and aid in the carrying out of the provisions of these rules and regulations, and the manager or proprietor of any canning establishment shall, on demand, produce his license to any such justice, fish warden, sub-collector, preventive officer or constable, and upon refusing to do so or otherwise obstructing any such officer in the discharge of his duty shall be subject to a penalty not exceeding four hundred dollars.

10. On the requisition of any person authorized or employed by the Fisheries Commission to hatch lobsters, the manager or owner of any lobster canning establishment shall, as far as possible and with due care, take from and keep, in such manner as may be prescribed by the Fisheries Commission, all eggs attached to

lobsters brought to said establishment, and deliver the same to a person authorized by the Fisheries Commission, under a penalty not exceeding five dollars for each refusal.

11. Any person convicted before any justice of violation of these rules and regulations may, by order of such justice, have his license forfeited and be declared incompetent of holding a license for the canning of lobsters for any period not exceeding one year thereafter.

12. All penalties and proceeds of sales of forfeited lobster gear, imposed and collected under and by virtue of the foregoing rules and regulations, shall be distributed as follows, viz.: one-half to the person prosecuting the offender to conviction, and the residue to the Receiver-General for the use of the colony.

13. Any person may secure at any time or by any means any lobster or lobsters for scientific or procreative purposes, anything in these rules and regulations contained to the contrary notwithstanding.

